ADCI/AP 2000-01

Strategic Investment Plan for Intelligence Community Analysis

Scope Note

This document, for the first time, lays out a ten-year ***Strategic Investment Plan for Intelligence Community Analysis*** (SIP). It outlines the goals and future requirements for the 11 agencies of the National Intelligence Production Board (NIPB) and the implementing actions—budgetary, procedural, and policy—that are needed to build and maintain the Intelligence Community's core analytic capabilities. It specifies deliverables beginning in FY 2001.

The NIPB, chaired by the Assistant Director of Central Intelligence for Analysis and Production (ADCI/AP), undertook this inaugural ***Strategic Investment Plan for Intelligence Community Analysis*** as a follow-on to an earlier effort to assess the analytic resources available to the US Intelligence Community to support its wide range of missions. The plan looks at future analytic requirements across six pillars: investing in people; technology; intelligence priorities; customer support; interacting with collectors; and external analysis.

The information and recommendations presented here reflect the collaboration and consensus of the members of the NIPB, who helped collect and compile the data and facilitated the review of issues and current programs within their respective organizations. The result is an assessment of what it will take for the IC analytic community—in light of the anticipated national security and budgetary environments we will face in the coming decade—to realize the DCI's vision for the United States Intelligence Community.

This unclassified *Strategic Investment Plan* was produced on the recommendation of members of the DCI's National Security Advisory Panel.

NIPB MEMBERS

Assistant Director of Central Intelligence for Analysis and Production (Chair)

Assistant Director of Central Intelligence for Collection

Deputy Director of Intelligence, Central Intelligence Agency

Deputy Director for Analysis and Production, Defense Intelligence Agency

Deputy Assistant Secretary of State for Analysis, Bureau of Intelligence and Research, Department of State

Assistant Deputy Director of Operations for Analysis and Production, National Security Agency

Director of Imagery Analysis, National Imagery and Mapping Agency

Director of the Office of Energy Intelligence, Department of Energy

Inspector/Deputy Assistant Director, Intelligence Branch, Investigative Services Division, Federal Bureau of Investigation

Director of Foreign Intelligence, Office of the Deputy Chief of Staff for Intelligence, Headquarters, Department of the Army

Executive Director, Office of Naval Intelligence

Associate Director for Intelligence, Directorate of Intelligence, Surveillance, and Reconnaissance, Headquarters US Air Force

Director, Marine Corps Intelligence Activity

Director, Program Office for Community Analysis

Executive Secretary

Deputy Director of Central Intelligence
for Community Management
Washington, D.C. 20505

The *Strategic Investment Plan for Intelligence Community Analysis* (SIP)is a logical and welcome follow on to last year's baseline assessment of Intelligence Community analytic capabilities. In these path-breaking efforts, the National Intelligence Production Board (NIPB) has established clear priorities for analysis and articulated future budgetary requirements to meet them.

The SIP represents a major step forward in support of the DCI's strategic intent for the Intelligence Community and the Assistant Director of Central Intelligence for Analysis and Production strategic direction. In particular, the plan advances the DCI's goals for an Intelligence Community that is "unified through collaborative processes" and characterized by "corporate management of resources."

The NIPB will have my confidence and strong support over the next year as it works to strengthen the SIP process: to improve data sharing and prioritization processes across the agencies; to identify more offsets to help fund the new initiatives; and to work closely with program managers to ensure that SIP goals are fully incorporated into the broader National Foreign Intelligence Program priorities.

Joan A. Dempsey

From the Director of Central Intelligence

This *Strategic Investment Plan for Intelligence Community Analysis* is an important step in implementing my *Strategic Intent for the United States Intelligence Community*. I am impressed by the interagency collaboration it represents and encouraged by the even closer collaboration it promises in the years ahead.

Intelligence analysis is facing fundamental challenges that will demand closer Community-wide cooperation in production and resource planning. In the next decade, we will encounter a dramatically changed threat environment in which targets are more complex, diverse, and dispersed around the globe. Analytic priorities will shift rapidly. We have already entered a radically transformed information environment in which our customers are better informed, expectations are higher, and lead times are shorter.

To deal successfully with this new threat environment, we must harness technology, manage resources, and invest wisely in people—our most important asset. More than ever, we must ensure maximum cooperation and coordination within the Intelligence Community. Collaborative planning is an imperative, not an option.

This comprehensive plan will improve my ability to articulate priorities for analysis and to monitor the Community's progress in meeting them. I commend the National Intelligence Production Board for its excellent work on the plan so far and encourage the analytic community to press on with this important, collaborative work.

George J. Tenet

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Stepping Out Smartly to Meet Tomorrow's Challenges

The National Intelligence Production Board, in this inaugural Strategic Investment Plan, has committed itself to a number of immediate steps that will put the analytic community on a fast train to achieving its broader goals over the next ten years. In FY 2001, we will:

People

- *Develop common Intelligence Community (IC) training requirements, support concept of a "virtual university," and begin working toward the establishment of an IC National Intelligence Academy for joint training and education in foreign languages, collection management, and other specialized areas to complement agency-specific programs.*

Technology

- *Fully stand up an IC collaboration center to provide practical guidance and assistance in deploying collaborative pilots and expanding them Community-wide.*
- *Continue collaborative work in interagency Community technology forums.*
- *Break down barriers and begin sharing databases of critical and common concern.*

Intelligence Priorities

- *Strengthen the role of the DCI production committees in projecting scientific and technological trends.*
- *Expand the mandate of Community warning organizations to include a leading role in competitive and alternative analysis on issues of critical concern.*
- *Sponsor a classified Intelligence Community web-site, incorporating the daily production of the NIPB agencies to promote collaboration and reduce redundancy.*

Customer Support

- *Initiate a digital production program for Community-wide current products to foster collaboration and reduce unnecessary duplication of effort.*
- *Deploy tools that will help customers search for and retrieve information quickly in a web-based environment.*

Interacting with Collectors

- *Implement an IC-wide analytic and collection evaluation program.*
- *Develop a Community-wide capability for rapid data integration by leveraging existing efforts to help analysts merge information from all sources as it is collected and processed.*

External Analysis

- *Increase the geographic reach and expand by one-third the numbers of outside experts working with the IC in the outreach program managed by the National Intelligence Council.*
- *Establish an Intelligence Community Reserve of former employees to supplement and enrich intelligence analysis during times of crisis.*
- *Develop a Community-wide strategy for exploiting open source material to take better advantage of the new information environment and the increasing number of commercial companies involved in open source data collection and analysis.*

Introduction

by the Assistant Director of Central Intelligence for Analysis and Production

AN INVESTMENT STRATEGY FOR COMMUNITY ANALYSIS

This ***Strategic Investment Plan for Intelligence Community Analysis*** **(SIP)** provides the analytic community with the unprecedented opportunity to achieve the unifying goals of the DCI's ***Strategic Intent*** and to translate today's challenges into tomorrow's resource requirements. The historic willingness to begin planning our future together stems, in part, from the growing perception that collaboration is the best way to achieve common goals for:

- **A skilled, expert, diverse and more mobile work force enabled by technology and armed with the best analytic tools.** The analytic community today lacks investment in training and the new positions to do this effectively.

- **A collection-smart work force that is trained and deployed and has the resources to assist collectors with requirements, evaluation, and procurement**. Without the necessary skills and expertise, the analytic community cannot help drive the collection process.

- **A collaborative work force that leverages the production of each agency to provide the best Community support to customers**. Electronic connectivity is critical to this important objective.

- **An outward-looking work force that systematically exploits the information and expertise of sources beyond the Intelligence Community to produce the most authoritative strategic and current analysis possible.** This is a business imperative that can be met if the priority is maintained.

Common Challenges Ahead

The stress on IC analytic resources today literally comes from all sides. The demands from both customers and collectors in the policymaking, defense, and law enforcement communities have grown significantly in volume and complexity over the past decade. Analysis today must

support the intelligence process end to end: identifying customer needs and the information gaps for clandestine collection; assisting collectors in targeting assets and evaluating raw reports; processing and exploiting increasing output from technical collection; engaging in procurement decisionmaking; and producing first-rate analysis for consumers. The analytic community recognizes that it also has a special overriding responsibility to make sense of a fast-moving world for the benefit of both consumers and collectors. Substance must come first.

- We all face a dispersed, complex, and "asymmetric" threat environment in which information technology makes everything move faster; in which strategic and tactical requirements are becoming more blurred; and in which diverse and shifting priorities increase the demands from consumers for expert analysis in real time and from collectors who, more than ever, need sustained guidance on priorities and greater assistance with exploitation.

- Our military commanders, reflecting a convergence of the national and warfighting communities, are increasingly doubling as diplomats who need more and better intelligence estimates, as well as stronger tactical intelligence support to cover fast-breaking developments in their vast areas of responsibility.

- Our diplomats need more effective intelligence support to do their jobs in increasingly complex situations. Diplomatic reporting, meanwhile, is in high demand but steady decline, as the State Department cuts back in response to diminishing resources.

- Analysts at the National Security Agency (NSA) and the National Imagery and Mapping Agency (NIMA) require greater assistance in prioritizing issues as they confront increasing exploitation challenges from new collection capabilities.

All the IC's analytic program managers today are struggling with resource issues as they attempt to prioritize their work; to enhance skills and tradecraft training; to deploy more analysts to policy agencies and to the field; to improve consumer support; to exploit rapidly advancing technologies to help analysts do their jobs and to meet growing requirements from collectors for guidance; and to develop outside partnerships as a source of technology and substantive expertise. The measures outlined in this Strategic Investment Plan will improve analysis, which is the most important of our common goals.

Why a Strategic Investment Plan?

The leaders of the analytic community have noted that the IC's success in dealing with a fast-changing threat environment will depend on the extent to which it collaborates in harnessing technology, in managing its resources, and in investing in its people—the resource that matters most in analysis. This inaugural SIP launches what we intend to be an annual exercise to build collaboration across the 11 analytic programs of the National Intelligence Production Board (NIPB), which is chaired by the Assistant Director of Central Intelligence for Analysis and Production (ADCI/AP).

NIPB members will continue, of course, to manage their own resources on a day-to-day basis, and to serve their own customers in pursuit of distinct mission requirements. Yet, they are ready—even eager—to collaborate on strategic investment. For this first SIP, the NIPB members have identified 11 priorities for analytic collaboration and investment—including six that they deem critical. These six are:

- Establishing an interagency training program to recapitalize analytic expertise.
- Ensuring that databases are accessible and interoperable to enhance collaboration and leverage expertise across the IC.
- Creating a collaborative working environment to link analysts and connect them to collectors, customers, allies, and outside experts.
- Building an agile framework and process to help in prioritizing substantive requirements for analysis and collection.
- Leveraging outside expertise to broaden our knowledge base and enhance analytic capability.
- Developing an effective open source strategy to take advantage of the wealth of unclassified information, which is often critical to analysis.

In the coming months, the NIPB will begin implementing the SIP. Implementation will be an iterative process over the next few years and will require continued cooperation and collaboration among NIPB members, with the program managers of the National Foreign Intelligence Program (NFIP), collectors, consumers, and other members of the Intelligence Community, as well as the executive departments and Congress. Although this effort almost certainly will require some new funds from outside the analytic community, we recognize that we will also need to identify offsets—activities we can stop doing—as an essential component in meeting our goals.

Our objective in developing the SIP is to produce on a continuing basis a document that articulates the goals of analytic producers and also provides guidance to them as they develop their own agency programs. The NIPB must be commended for reaching new heights in community collaboration. For the first time, the analytic community has committed to a strategic planning process and a comprehensive series of initiatives that will improve our overall analysis and production capabilities. This effort has deepened trust, broken new ground in strategic programming and budgeting, and demonstrated what can be achieved by working together toward common goals.

John C. Gannon
Assistant Director of Central Intelligence
for Analysis and Production

Executive Summary

The New Environment for Analysis

Over the next decade, the challenges that confront Intelligence Community (IC) analysis will continue to outpace the resources available to meet them. The level of investment in intelligence analysis has declined through the 1990s, and overall investment will continue to decline in real terms over the next five years. Without significantly increased investment, Intelligence Community analysis will fall behind the pace of global events, the rapid flow of information, and the demand of collectors for guidance on priorities—increasing the risk of national security surprises or intelligence failures.

- Investment in analysis has declined as a portion of the National Foreign Intelligence Program (NFIP) since 1990, and its share of the NFIP budget is projected to decline further by FY 2005.

- Analysis funding is also declining in real terms.

- The effect of inflation on analysis spending is magnified by rising personnel costs, which are increasing faster than inflation. As a result, even though the number of analysts has declined dramatically since 1990 and will increase only modestly through FY 2007, the cost of paying their salaries is increasing steadily.

Critical Priorities for Investment

National Intelligence Production Board (NIPB) members have identified **11 critical priorities** for analytic investment, which are grouped into six pillars—investing in people, technology, intelligence priorities, customer support, interacting with collectors, and external expertise.

Investing in People

The intelligence business is fundamentally about skills and expertise, and this means people—people in whom we will need to invest more to deal with the array of complex challenges we face over the next generation. No system or technology by itself will enable us to master the new threat environment nor manage the glut of information we will face in the years

ahead. We will need a skilled and expert work force enabled by technology and armed with the best analytic tools.

Previous studies have shown that the IC lacks depth—or coverage—in many key areas, a problem that will grow as many experts retire during the next few years. It pointed, in particular, to a chronic shortage of language and science and technology skills.

Among other things, the SIP proposes:

- Additional resources to develop, beginning in FY 2001, an interagency training program to realize efficiencies where possible and to complement agency-specific programs. The interagency program will include the establishment of common training requirements and support for the concept of a "virtual university" and will lay the groundwork for a real National Intelligence Academy for IC training and education.

- Increased funding for language, collection management, and other specialized training.

- The designation of training billets, equal to ten percent of the current analytic personnel strength.

- Periodic NIPB meetings, chaired by the ADCI/AP, to track progress on critical management issues such as work force diversity.

Technology

Technology will continue to challenge us in every area of our business—from operations and collection in the field, to protecting our own information systems, to analytic tools, to dissemination of analysis to consumers. Technology is also our best hope of dealing with the massive amounts of information available today.

The analytic community, for the past several years, has rated the establishment of interagency electronic connectivity and the introduction of collaborative technologies as a critical priority. Indeed, the Community is already spending significant resources and effort to improve current capabilities and advance toward a true collaborative and technologically enabled workplace. But much more needs to be done.

The SIP recommends:

- A community-wide strategy to achieve a virtual work environment enabled by collaborative and analytic tools, and interoperable databases to improve the comprehensiveness and timeliness of our analysis.

- An IC collaboration center to facilitate the analytic community's move from pilots to enterprise and IC-wide deployment. The center will focus on mapping, testing, and recommending improvements to community analysis and production processes; identifying metrics and codifying best practices; and facilitating the integration of advanced analytic tools. It will work through, and in concert with, existing agency-specific efforts.

- The breaking down of barriers and the sharing of databases of critical and common concern. The ADCI/AP and IC Chief Information Officer (CIO) are focusing initial efforts on a few select databases. These initial efforts will help the analytic community identify potential obstacles to and establish guidelines for future large-scale collaborative efforts.

Intelligence Priorities

Today's fast-moving threat environment continues to hamper the IC's ability to provide sustained guidance on priorities. Analytic programs are stretching scarce resources against dispersed and shifting priorities in an increasingly operational environment. NIPB members recognize that closer collaboration among IC agencies is the key to improving strategic analysis and warning, and to developing a dynamic national prioritization process.

The SIP calls for:

- NIPB-level collaboration in determining intelligence priorities, reducing unnecessary duplication of effort, and addressing the issue of competing requirements to ensure sustained intelligence focus on priority targets, as well as appropriate emphasis on strategic analysis and global coverage.

- Increased investment in strategic analysis over the next five years and an expanded Community Warning Staff to routinely structure

IC games and competitive and alternative analysis on issues of high stakes to the United States.

- A strengthened role for the DCI production committees in projecting scientific and technological trends that are likely to have a fundamental impact on national security interests and the intelligence environment.

Customer Support

The Intelligence Community's number one priority is to provide its customers with the best possible custom-tailored intelligence whenever and wherever they need it. Our ability to do so depends, in large part, on how well we understand and respond to customers' needs and on how much our products help them do their jobs.

The SIP proposes:

- Increased use of web-based solutions and commercial operating technology—such as **digital production**—to refine the analytic community's production processes and reduce unnecessary duplication of effort. This will enable agencies to better track customer requests, measure productivity, share information, and distribute intelligence products.

- Better and more consistent methods for evaluating products and measuring how well we are satisfying customer needs.

Interacting with Collectors

A close and continuing relationship between the analytic and collection communities is imperative if we are to develop effective collection strategies against increasingly diverse and hard-to-penetrate targets. Analysts must play a more active role in the targeting, requirements, evaluation, and acquisition processes. Resources, however, are stretched in the effort to meet this demand.

The SIP calls for:

- More **training in collection disciplines** for analysts and a strengthened **community-wide collection evaluation program**.

- Additional resources to support analysts' participation in the development of collection strategies through interagency community mechanisms.

- Increased investment in collaborative tools to address the needs of analysts, and to ensure that the analytic community can rapidly integrate data as it is collected and processed.

- A comprehensive **National Integrated Intelligence Requirements Process** to provide direction on intelligence priorities and collection requirements and to monitor and guide the pre-acquisition efforts of agency and IC requirements management systems.

External Analysis

Assessments of IC analtyic capabilities have noted a growing acceptance of the IC's reliance on outside expertise, but considerable differences among IC components in both the focus and the extent of their use of outside experts. The situation is improving steadily, and the Intelligence Community today is doing a lot with outside experts. It recognizes, however, that it must do more to process and exploit the open source environment more effectively, supplement its base of knowledge, fill important information gaps, and stimulate innovative thinking and alternative viewpoints. This means developing outside partnerships and recapturing lost expertise through the use of reserves and other mechanisms.

The SIP recommends:

- A comprehensive **open source strategy** to embrace and exploit the emerging "information environment." The Community needs to develop a corporate strategy to take advantage of the numerous private companies now providing open source data geared to specific customer interests. It also needs to exploit the Internet and other open media more effectively and efficiently.

- An **Intelligence Community reserve**—composed of self-selected annuitants—that can be used to augment the analytic cadre for purposes of both surge and normal coverage.

- Expanded partnerships with industry, academia, and other government agencies; appropriate capabilities to communicate and share information more readily with outside experts; and necessary policy and procedural changes to facilitate these efforts.

Where do we go from here?

This investment plan articulates the goals of the analytic community and also provides guidance to analytic program managers as they build their agency-specific budgets. Through this effort, the NIPB agencies have committed to an enduring collaborative framework that will be reflected in the FYDP in clear resource terms. A permanent interagency Strategic Investment Committee will meet with the ADCI/AP to update the SIP each year, to review prioritization of strategic requirements for IC analysis, to flag and foster individual agency initiatives that support SIP goals, and to identify interagency projects to be championed by the ADCI/AP.

Chapter 1: The Investment Roadmap

This ***Strategic Investment Plan for Intelligence Community Analysis*** **(SIP**), for the first time, establishes common priorities and identifies future requirements for the 11 agencies of the National Intelligence Production Board (NIPB). The NIPB, chaired by the Assistant Director of Central Intelligence for Analysis and Production (ADCI/AP), completed the inaugural SIP after a comprehensive assessment of IC analytic capabilities.

- **The previous assessment told us where we were.** It examined the various missions and consumers they serve; assessed individual and collective approaches to technology; outlined analytic efforts to engage collectors on requirements, evaluation, and procurement issues; surveyed various policies to build needed skills and expertise; and documented our growing, though uneven, interaction with outside experts.

- **The SIP tells us where we are going.** The NIPB used previous assessments to launch a collaborative resource-planning effort that identified six priority areas for corporate investment, known as "pillars." The six pillars, which are addressed in chapters 2 through 7, are: (1) investing in people, (2) technology, (3) establishing substantive priorities, (4) rationalizing customer support, (5) interaction with collectors, and (6) engagement with outside experts.

- **Collaboration will get us there.** In working groups and off-sites over the past year, the NIPB prioritized numerous issues within the pillars; shared data on both current levels of investment and future needs; identified six "Band A" priorities—top initiatives for investment over the next ten years: training, interoperable databases, collaborative electronic environment, analytic/collection priorities, outside expertise, and open source strategies. Another five important initiatives are classified as "Band B" priorities. The NIPB then established a permanent interagency Strategic Investment Committee to begin institutionalizing this collaborative process and building on the analytic community's inaugural effort. **The NIPB is committed to a process that will identify offsets—activities we can stop doing—as an essential part of the effort to meet our investment goals**.

This inaugural SIP is modest in the issues it takes on but is encouraging in the ground it breaks on collaboration. The NIPB is eager to build on this, but recognizes that the support of the Director of Central Intelligence (DCI), the Deputy Director of Central Intelligence for Community Management (DDCI/CM), the Program Managers of the National Foreign Intelligence Program (NFIP), and the Congress is vital to long-term success.

Why a *Strategic Investment Plan*?

Over the next decade, the challenges that confront Intelligence Community analysts will continue to outpace the resources available to meet them. The demand for intelligence will expand as the United States faces new challenges and opportunities in a fast-changing world. And as technology increases our access

to information, the amount of data that must be collected, processed, analyzed, and conveyed to consumers will expand proportionately.

The level of investment in intelligence analysis declined through the 1990s, and is expected to decline in real terms over the next five years as personnel costs—the largest component of analysis spending—rise faster than inflation. Without significantly increased investment, Intelligence Community analysis risks falling behind the quickening pace of global events, the increase in available information, and the demand of collectors for guidance on priorities—increasing the risk of national security surprises or intelligence failures.

This ***Strategic Investment Plan for Intelligence Community Analysis*** provides a collaborative process to meet this challenge across the IC. The six pillars that are described in the following chapters address the central components of analysis—people, technology, outside expertise, the critical relationships with customers and collectors, and, finally, the role of analysis to provide the basis for defining overall national security priorities and the application of those priorities for collection and analysis capabilities. Each of these chapters, and the remainder of this introductory chapter, describes the highest priority initiatives for intelligence community analysis to meet future challenges. The end of this chapter will set forth the process through which NIPB agencies will work together to address the priority initiatives.

Establishing Investment Priorities

From the "as is" data presented in the earlier assessment and the vision of the environment in which the analytic community will operate in the future (the "to be" capabilities, or desired endstates), the NIPB members identified gaps to be filled to address the challenges ahead. They have agreed on 11 critical priorities for analytic investment, with six top "Band A" priorities. They are:

- **Analytic training, increasingly in interagency programs, to build an expert work force, meet critical mission needs, and strengthen analytic tradecraft.** In addition to more funding, improving training will also require additional billets to allow analysts to be away from their desks for training. The goal is to have a minimum of ten percent of the current work force billets set aside for career development. - *needed to recapitalize analytic expertise and develop skills to cover new and emerging issues.*

- **Accessible and/or interoperable databases to improve the ability of analysts to access, share, and manipulate data.** NFIP investments on databases are growing. However, databases across the analytic community are not fully interoperable. - *needed to enhance collaboration and leverage the expertise across the IC.*

- **A collaborative environment to allow analysts to share knowledge and expertise, and link them to collectors, customers, and outside experts**. The NFIP is investing heavily in collaboration. The majority of this cost, however, is for hardware, rather than the tools that enable collaboration. - *needed to ensure an interoperable environment, in which data are accessible across the analytic community and, as appropriate, to our customers and partners.*

- **An agile framework to prioritize analysis and collection.** The development of a more agile, national-level intelligence priorities system is essential to provide for coherent allocation of analytic and collection resources to address standing priorities, as well as surge requirements for crisis support. - *needed to allocate analytic resources to meet the highest priority requirements of customers in a dynamic and flexible fashion, while also providing a streamlined, comprehensive set of requirements for collectors.*

- **Outside expertise to broaden our knowledge base and enhance analytic capability.** - *needed to exploit the knowledge and expertise of academicians, business executives, annuitants, former IC analysts, and military reserves and to leverage our analytic foundation.*

- **Effective strategies to exploit the growing and increasingly important open source environment** - *needed to take advantage of the wealth of open source information, which is often critical to our analyses, but which must be mined and sorted to be used effectively by analysts.*

Another five areas are also important, and the NIPB has classified them as "Band B" priorities:

- **Skills management to track, build, and sustain appropriate analytic skills now and in the future.** - *needed to determine manpower levels for the future, and enable managers to allocate existing resources appropriately, particularly in times of crisis or surge.*

- **Staffing strategies to attract and retain the most talented employees and to enhance work force agility and diversity.** - *needed to compete with job opportunities outside the government.*

- **Analytic tools to help manage information, reveal connections, facilitate analytic insights, streamline search, and automatically populate databases.** NFIP investments in analytic tools—primarily for agency-specific uses—are growing rapidly. However, additional funds, targeted for developing common tools, are necessary for the analytic community to achieve its goals. - *needed to provide the most effective technical support, ensuring systems interoperability and reducing unnecessary duplication of tools development.*

- **Digital production to capture, store, and recover information for customers and other analysts.** The NFIP in the next couple of years is making a sizeable investment in digital production. This investment introduces digital production technology to agencies, but additional resources are needed for community-wide production. - *needed to enhance collaborative production as well as to allow tailoring of information for specific customer requirements.*

- **Evaluation methodologies and tools to assess analytic and collection performance to reveal critical gaps, satisfy customer needs, and improve collection and analytic posture.** - *needed to ensure that the analytic community is meeting mission requirements and to help us determine our critical needs as well as areas in which we can afford to risk manage our production.*

The NIPB members analyzed current cross-programmatic expenditures in the critical priorities. They have determined that addtional resources are required in these priority areas to realize the NIPB's goals for implementing the DCI's ***Strategic Intent.***.

The NIPB members recognize that some of the resources for strategic investment must result from efficiencies and trade-offs gained through a common, corporate approach in these critical areas. Other resources to fund these capabilities will come from partnerships with other elements of the larger Intelligence Community—the Intelligence Community Chief Information Officer (IC CIO), for example, or training components. However, the analytic community cannot succeed in this investment strategy if it requires funding solely from reallocation of available resources. Having identified these capabilities as critical, some of the required resources must come from other parts of the IC or from outside of the NFIP.

Identifying Needed Actions

Once the NIPB members established the investment priorities, they identified specific **implementing actions** to achieve the capabilities described above. ***The Strategic Investment Plan*** describes these actions and outlines a phased approach, identifies responsible organizations to lead specific efforts or serve as executive agents, and presents milestone years.

The strategies and implementing actions of this plan cover the Future Years Defense Program (FYDP) and must be linked to the Intelligence Community's programmatic cycle. This will require effective, corporate approaches to building the production portions of the NFIP programs, and a commitment by each NIPB member to continued implementation of the strategy. Although our goals are long-term, the strategies and implementing actions will need to be adjusted as we go along.

Many of the needed links already exist. The ADCI/AP, working with the Community Management Staff, has issued broad direction that reflects the investment priorities of the SIP. This guidance provides the basis for review of the NFIP programs' submissions to the DCI, the identification of program review issues, and final decisions on the budget leading up to its submission to the President and thence to Congress.

The NIPB has established a permanent interagency strategic investment committee, under the chairmanship of the ADCI/AP, that will meet periodically to review agreed-upon goals, track individual agency initiatives in support of them, identify interagency proposals for ADCI/AP budgetary assistance, highlight new issues in need of investment, and identify offsets or business areas for elimination.

- The committee will review the proposed production programs for each fiscal year and provide recommendations to the ADCI/AP on gaps and shortfalls, or areas where the Community should leverage the activities of one program to permit reduction of similar activities by other members of the Community.

- The NIPB principals have agreed to meet at least once a year to revalidate the overarching SIP strategy, the desired capabilities for the FYDP, and the implementing actions to achieve these capabilities.

The Resource Roadmap

While all 11 investment areas are critical and need to be funded over the FYDP, the NIPB believes six areas are of paramount concern—training; accessible/interoperable databases; collaborative environment; analytic/collection priorities; outside expertise; and, open-source strategy. All 11 priority areas and implementing actions are shown in the accompanying table, delineated by critical (Band A) and important (Band B) categories, along with the profile of any currently-programmed NFIP dollars and manpower. The responsible organization or organizations, areas of dependency, and the fiscal year in which the effort will begin and end are also identified. Based upon the expected cost of each investment area across the FYDP and the amounts already programmed by the NIPB members in their NFIP program, we have calculated an estimated over-guidance amount, to be obtained either through reallocation across the NFIP, an increased topline, or efficiencies achieved by pursuing a corporate approach.

Band A Priorities

Training – To build an expert work force, meet critical mission needs, and strengthen analytic tradecraft, regional and technical expertise, collection mastery, intellectual rigor, communications skills, and knowledge of consumers' needs.

- Ensure funding for, access to, quality training/education ***(begin in FY02)***
- Build an analytic training consortium: National Intelligence Academy ***(begin in FY01)***
  - -- Establish IC core curriculum, e.g., analytic tradecraft, orientation to collection systems, production management, information management, etc.
  - -- Create virtual IC university using distance learning to supplement on-site training
- Prepare/post catalog of training courses across IC
- Training billets—ensure a minimum number identified, equal to ten percent of the current (FY00) work force ***(by FY07)***
- Increase funding for language training ***(begin in FY02)***
- Identify centers of excellence and open these programs to IC, where appropriate ***(by FY01)***

Responsible Organizations: NIPB agencies
Dependencies: IC Training Offices
Implementation year: FY01-07

IC currently does not have bench strength sufficient to allow analysts to take needed training and career development courses. Training efforts are stovepiped and often duplicative across the IC.

Investment in this area will provide adequate training for analysts, reduce unnecessary duplication, enhance analytic skills, increase analytic understanding of the IC, and add billets to the analytic workforce to allow more analysts to participate in training without reducing the operations of production organizations.

Band A Priorities

Accessible and/or interoperable databases – ***Collaboration on development of interoperable databases to improve the ability of analysts to access, share, and manipulate data at any time, from any location.***

- Establish functional standards for interoperability in developing new databases ***(begin FY01)***
- Develop and deploy new tools/software to facilitate access to heterogeneous and legacy data
- Migrate and/or redesign or transition existing databases to a new data layer
- Support Community fora related to interoperability and access to databases ***(begin in FY01)***
- Establish a baseline inventory of databases critical for analysts to access and share by November 2000; identify pilots to improve sharing of data by October 2000 ***(by FY01)***
- Establish IC-wide metadata standards, organize repository, and provide updating process and tools to automate metadata tagging
- Foster the development of processing techniques that integrate data from different collection systems. ***(by FY03)***

Responsible Organizations: ADCI/AP, NIPB members
Dependencies: IC CIO, DIA
Implementation year: FY01-07

Databases are not currently fully interoperable nor accessible across the IC. To ensure the ability to fully collaborate, IC analysts must be able to access databases across a variety of security domains. As we move to a true virtual environment, database accessibility will also be necessary for customers.

Investment in this area will provide the essential structure to allow database interoperability across the IC.

Band A Priorities

Collaborative Environment –***A virtual work environment that connects desktops across the IC, enabled by collaborative tools, policies, and a security framework to allow analysts to share knowledge and expertise and link them to collectors, consumers, allies, and outside experts.***

- Establish an IC collaboration center under an executive agent, with contract and IC training organization staffing, to lay out a roadmap to move from pilots to enterprise and IC-wide deployment ***(begin FY01)***
  - -- Focus on culture and business process issues
  - -- Coordinate with IC CIO on security and technical issues
  - -- Identify metrics and best practices and Integrate with similar activities
- Establish an interoperability roadmap/certification program ***(by FY02)***
- Fund and study additional collaboration pilots through FY03, with a view to migrating toward common IC services that will allow interoperability ***(by FY03)***
- Deploy interoperable collaborative environment across the NIPB ***(by FY03)***

Responsible Organizations: ADCI/AP, NIPB members
Dependencies: IC CIO, CIA, NSA
Implementation year: FY01-07

The IC currently has multiple collaborative tools under development. It is essential that the Community ensure the tools are interoperable, even if a single suite of tools is not mandated across the IC. Exchange of information about best practices is critical.

Investment in this area will leverage the efforts of all organizations and enhance tools for analysts' use.

Band A Priorities

Priorities – ***National-level framework and processes to prioritize intelligence needs to support analysis and collection, help make efficient tradeoffs, and manage future acquisitions.***

- Develop framework and processes to prioritize intelligence needs to drive allocation of analysis and collection resources. ***(by FY01)***
- Develop software to allow dynamic updating of priorities ***(by FY01)***
- Work with existing agencies, and IC collection committees/mechanisms, and ADCI/C to provide:
  - -- IC-recognized, integrated requirements to collectors
  - -- Substantive guidance to collection community during surge situations
  - -- Future requirements to Mission Requirements Board
- Oversee and support pre-acquisition efforts in developing CICMP and support single-INT requirements systems ***(begin FY01)***

Responsible Organizations: ADCI/AP, ADCI/C, NIPB members, IC committees
Dependencies: IC CIO, DIA
Implementation year: FY01-07

The multiple frameworks, guidance documents and sets of analyst and customer needs do not allow the IC to effectively manage either its analytic or its collection resources.

Investment in this area will provide a dynamic, flexible framework to adjust priorities that may require changes in the allocation of analytic and collection resources.

Band A Priorities

Outside Expertise – ***Leverage outside expertise and provide a communications infrastructure to broaden knowledge base and recapture lost expertise.***

- Identify level of outside expertise available/needed ***(begin FY01)***
- Establish an IC reserve force composed of annuitants and other former employees
  - -- Develop Community-wide template for agencies to incorporate in transition programs to allow departing analysts to self-select for possible inclusion in the reserve
  - -- Develop contract mechanisms and work with Congress to create legal remedies to hiring or temporary employment on limited contracts
  - -- Develop strategy for alerting retirees to the reserve, including an approach that would allow individuals to retain appropriate security clearances
- Leverage Military Reserves in a more systematic fashion, including their use to benefit non-DoD intelligence organizations ***(by FY02)***
- Expand and/or enhance existing partnerships with outside experts through agency programs already underway and through cross-Community efforts
  - -- Make efforts transparent to Community, using push technology and other techniques to communicate and involve other agencies
  - -- Create a web-based on-line clearinghouse for seminars and projects using outside experts (apply push technology)
  - -- Review/change Community policies, security procedures, and legislation to make it easier to establish continuing relationships with outside experts and communicate actively through e-mail and Internet
- Initiate requirements study, in cooperation with IC CIO, that will smooth communications with external partners. Develop, as appropriate, an Internet-based interface to connect the outside experts/ reserves

Responsible Organizations: ADCI/AP, NIPB members
Dependencies: Human Resources organizations
Implementation year: FY01

While the IC has recognized the need to use outside expertise to provide analysis not available within the IC, it has not ensured that mechanisms are in place to facilitate this, particularly to enable the IC to take advantage of the expertise of former employees.

Investment in this area will ensure the legal and security mechanisms are in place, provide a clearing-house of individual organizations' efforts, and allow connectivity with partners outside the IC.

Band A Priorities

Open Source Strategy – ***to tap key sources (FBIS, commercially-available products/data) and embrace and exploit emerging Information Environment.***

- Develop and open source strategy ***(begin FY01)***
- Develop a funding approach to present to IC leaders ***(begin FY01)***
- Consider alternatives to current IC open source organization
- Establish trusted agents as part of an open source strategy
- Deploy Internet to the analyst desktop

Responsible organizations: NIPB members
Dependencies: IC CIO, Security Offices
Implementation Year: FY01

The IC investment in open source, particularly FBIS, has declined radically in recent years.

Investment in this area will provide a cogent, corporate approach to ameliorating this problem, providing the most effective approach to ensure access to open source materials by our analysts.

Band B Priorities

Skills Management – ***Skills management, tracking, and planning to build expertise; ensure appropriate skills mix; and meet mission requirements.***

- Establish analytic skills database to track/map expertise across the Community (agency maintained, but interoperable, systems—based on Community-coordinated template ***(by FY01)***
- Perform IC-wide needs assessment to determine appropriate end strength ***(by FY02)***

Responsible Organizations: ADCI/AP, NIPB members
Dependencies: Human Resources organizations
Implementation year: FY01

There is widespread agreement that the skills mix of the future analytic work force will be different than it is today, but no methodology has been set up to determine the appropriate size and needed skills for the new work force.

Investment in this area will leverage the work of the individual agencies and provide an IC-wide capability to measure skills and assess the future requirements for analytic end strength and skill mix.

Band B Priorities

Staffing Strategies – ***Innovative recruitment, hiring, and staffing strategies to build expertise and effectively manage a diverse work force.***

- Ensure adequate funding to be able to hire short-term employees under existing authorities (resources for administration and salary/incentives ***(by FY02)***
- Develop personnel and security policies and procedures to allow some employees to obtain or retain clearances so that it is easier to hire limited appointment personnel for special short-term projects and/or recall former employees for crisis, surge, or other support. ***(by FY02)***
- Review/modify recruitment and personnel policies to make it easier to hire and accommodate a mix of long-term careerists, short-term/limited appointment employees, and contractors and consultants.
- Adjust policies to allow for movement between government and industry on a regular basis
- Establish expertise building rotational assignments and partnerships with academia/private sector
- Monitor progress on diversity

Responsible Organizations: ADCI/AP, NIPB members, Community Management Staff
Dependencies: Human Resources organizations
Implementation year: FY01

We cannot expect that newly hired analysts will remain with the government for a 30 year career; rather, we should expect that they will move in and out of government over the course of their career.

Investment in this area provides the needed flexibility in hiring and security policies to facilitate a tiered work force.

Band B Priorities

Analytic Tools – ***An automated analytic workflow process that relies on the broad availability of advanced analytic tools to help manage information, reveal connections, facilitate analytic insights, streamline search, and automatically populate databases.***

- IC collaboration center as central clearinghouse for tool development and deployment lessons learned to ensure interoperability; commonality where appropriate; and accessibility across the NIPB ***(by FY01)***
  - -- Identify components of a basic analytic tool box (mapping, timelines)
  - -- Develop seal of approval program to encourage use of standards-based development
- Identify executive agents for key technology efforts ***(by FY01)***
- Tools to handle information volume (for individual agencies)
- Deploy interoperable tools within programs ***(by FY05)***
- Focus IC's R&D strategy on supporting analytic tool requirements, providing study on how commercial sector is dealing with analogous problems ***(by FY01)***
  - -- Conduct study of level of effort required for analytic tools over the FYDP to be incorporated in FY03 program ***(begin by FY01)***

Responsible Organizations: ADCI/AP, NIPB members
Dependencies: National Intelligence Council (NIC), IC CIO, DIA, CIA
Implementation year: FY01

Investment in this area will place analysts in the middle of tool development and ensure that whatever tools are developed are interoperable.

Band B Priorities

Digital Production - Efforts and electronic tracking and production systems to capture and make available intelligence "products" that can be recovered and reused by customers and other analysts (knowledge warehouses).

- Deploy interoperable digital production technology across NIPB ***(by FY03)***
  - -- NIPB transition to a digital production best business practice ***(by FY05)***
  - -- Support IC CIO in establishing Community data standards
- Establish pilot digital production efforts, with emphasis on compatibility and interoperability across the Community ***(by FY01)***
  - -- Use NIC as pilot to transform business processes through digital production, applying agency digital production tools to Community publications. Share best practices/ lessons learned
  - -- Pilot digital production technology and tools to agency offices that produce daily publications, facilitating IC participation in the production process
- Support Community efforts to make finished intelligence and database information more accessible to facilitate digital production, e.g., Community efforts to better organize information on the classified web ***(by FY01)***

Responsible Organizations: ADCI/AP, NIPB members
Dependencies: NIC, IC CIO, DIA, CIA
Implementation year: FY01

Web-based, digital production is beginning to be used across the IC, particularly in the Defense Intelligence community. Full deployment of this capability not only will require the hardware, but a change in business practice.

Investment in this area will allow IC-wide testing of DoD and other tools, as well as developing ways of adapting our business processes to the future production environment.

Band B Priorities

Evaluation – ***Better and more consistent methods for evaluating analytic and collection performance to reveal critical gaps, satisfy customer needs and improve our collection and analytic posture.***

- Support and advance use of existing agency collection evaluation methodologies across NIPB ***(By FY 01)***
- Product Annual Report on State of Health of the Intelligence Analytic Community, building on recent ADCI/AP and ADCI/C efforts (in-depth evaluation, issue-based)
- Budget for blue ribbon panels of inside/outside experts to prepare periodic "lessons learned" on event-driven issues/ topics of critical concern
- Pursue electronic audit trails and other electronic "survey" measures to encourage customer feedback/usage as we move forward with digital production ***(by FY01)***
  - -- Work with commercial world to understand what mechanisms web-based businesses use to measure customer satisfaction
  - -- Study possible methodological, procedural, legal, and security issues connected with use of audit trail data
- Reinvigorate Community coordination and rationalize production of daily publications across the NIPB ***(by FY01)***
- Explore commercial and government methods and mechanisms that could be adapted to evaluate analytic and collection performance ***(by FY01)***

Responsible Organizations: NIPB members
Dependencies: ADCI/C
Implementation year: FY01

Investment in this area will allow better allocation of analytic resources to address customer requirements, as well as reduce unnecessary duplication of production activity. It will enable managers to more accurately determine how to "risk manage" scarce resources.

Investing in People

Goal: To build and maintain a diverse work force that is second to none in its analytic discipline, regional and technical expertise, collection mastery, intellectual rigor, communications skills and knowledge of consumers' needs.

Desired Outcomes:

FY 2005

- *Joint and Community-wide training and education programs in language, analytic tradecraft, management, and collection disciplines: National Intelligence Academy.*
- *Acquire designated training positions to allow ten percent of analysts to be in training or developmental assignments at any given time.*
- *Community database cataloging analytic skills and capabilities across the IC is in place and maintained.*
- *A systematic, empirical methodology in place to determine current and future analytic resource requirements.*
- *Staffing goals established that include "bench strength" to ensure opportunities for training and development.*
- *Coordinated, coherent, needs-based analytic career development system in place at each organization.*
- *Analytic work force routinely participates in professionally enhancing rotational assignments.*
- *Flexible recruitment policies established.*
- *Expert analyst corps established across agencies to permit promotion to executive positions.*
- *Metrics imbedded in training to capture improvement and determine return on investment.*
- *Established goals or defined measures of success in place with regard to work force diversity*

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FY 2010

- *Robust IC training program for managers and analysts in National Intelligence Academy.*
- *Tiered staffing system in place for depth and breadth.*
- *Management uses IC skills database to match peoples' skills, knowledge, and expertise to meet priorities, identify gaps, determine hiring/recruitment requirements and training curricula.*
- *Substantial rotational opportunities in place for analysts to serve in government, industry, academia, and overseas.*
- *Clear management accountability for analytic career development.*
- *Analytic training and education requirements drive program development.*

Chapter 2: Investing In People

All NIPB agencies recognize that "analysis is people," and they support investment in skills and expertise as a top priority. The Community's record, however, is mixed on preserving that investment against shifting or unforeseen current requirements. The SIP will enable NIPB agencies to monitor their performance on investment over time.

The ADCI/AP will make a strong push on developing an interagency training program in FY2001 and acquiring designated analytic training billets over the next five years. With regard to the broader personnel agenda, the ADCI/AP will coordinate with NIPB members and the Community Management Staff (CMS) to facilitate closer collaboration in developing recruitment, professional development, and assignments strategies. He will promote dialogue on "best business practices" across the agencies and will chair periodic NIPB meetings to track progress on critical management issues, such as work force diversity.

The SIP will allow the NIPB, in cooperation with CMS, to address a long-standing but unfulfilled objective of the Community: the development of an interagency training program. This will be an interactive process, which the SIP should help sustain. The first step in FY2001 will be the NIPB's production of common requirements for training in management, analytic tradecraft, languages, and collection disciplines.

The NIPB's aspirations are, however, that common training will gradually move beyond paper requirements, first to a virtual program and ultimately augmented with an IC National Intelligence Academy. The goal, in addition to increasing professional knowledge and skills, would be to foster interaction—and bonding—among officers across the agencies. The program also would provide a venue for retired IC officials to teach, write, and both document and transmit the history of the IC to future generations.

NIPB acquisition of designated developmental positions will increase opportunities for analysts to participate in training and educational experiences at all stages of their careers. Our objective is to provide organizations with a "backfill" capability by 2005, that would allow ten percent of the analytic work force to be engaged in training and education at a given time.

Work Force Issues

Depending on the analytic organization and the occupational discipline, there is a work force "graying" (i.e, aging) and "greening" (i.e., an influx of very young people) problem in the Intelligence Community. Some agencies have done little or no hiring over the past decade because of downsizing, the need to invest in research and development and technical systems, or an inability to acquire recruits with the desired skills. Senior personnel are retiring without being replaced with analysts having comparable knowledge, and some remaining veteran analysts possess skills that are outdated and less important in today's world.

Other agencies, however, have been able to hire, but have recruited heavily at the entry level. These newer analysts will require at least five to eight years to reach journeyman status, and, in the meantime, some regional and functional disciplines will suffer from a serious shortage of in-house expertise. Moreover, some scientific and technical (S&T) centers are experiencing an influx of junior military personnel with strong educational and technical credentials, but who have little or no analytic experience. Both "gray" and "green" analysts will require appropriate training and education, as well as enriching professional experiences and assignments.

Perhaps an even greater problem facing the Intelligence Community is that it lacks an empirical basis for determining exactly how many analysts it needs to ensure breadth of coverage and depth of expertise. Without the capability to track and catalogue analytic skills and expertise across the Community, it is difficult to determine overall gaps and shortfalls in analytic manpower by occupational specialty or competency.

In addition to a shortage of resources, certain management policies and organizational cultures impede building and sustaining substantive expertise. For example, some agencies offer almost no opportunity for analysts to rotate out of their "home" offices and serve in related substantive assignments in their own or other organizations or with customers located here or abroad. Analysts in other agencies believe they must change jobs or rotate to a new job area every two to three years to ensure they are competitive for promotion and/or career progression by becoming intelligence "generalists." However, in every agency analysts customarily must transition to management to move up the career ladder, since there are too few non-managerial opportunities to reach the senior and executive ranks. This leaves little upward mobility for those analysts who seek to become true substantive experts.

Not only must the Community continue to hire the most talented, diverse work force, but it also has to ensure that once on board, all employees are provided with equal opportunities for training, education, assignments, and career progression.

To meet these challenges, the individual NIPB agencies have committed significant human and fiscal resources to provide our analysts with more training and professional development opportunities. If we are to reach our goal of building and sustaining a world-class analytic work force with the required depth and breadth of expertise, the Community must do more by working corporately to: maintain robust career development and training while better defining and managing skill requirements; employ innovative recruitment and assignment strategies; and cultivate the talents of a diverse work force.

Career Development and Training

In recent years the analytic community has initiated several new programs to enhance the quality and availability of training. Organizations have made a particular effort to focus on training in tradecraft in a variety of analytic mission areas. There has been less work in the area of career development.

CIA started the Sherman Kent School of Intelligence in 2000. The curriculum of the new school emphasizes training in analytic tradecraft. The heart of the Kent School is a six-month course of instruction for analysts that

covers intelligence history, values, and ethics, as well as tradecraft.

Much of DIA's expertise-building effort has been focused on educating a largely civilian analytic work force in the tradecraft of military intelligence. To that end, DIA developed a military familiarization course, which provides an intense field experience with the US Armed Forces to enhance analysts' understanding of the warfighters' requirements for intelligence support. The National Air Intelligence Center (NAIC) has also initiated a training course in analytic tradecraft for new members of its work force. The Joint Military Intelligence College (JMIC) contributes to the continuing education of Community personnel engaged in a variety of intelligence disciplines. The JMIC grants both Bachelor of Science and Master of Science degrees in strategic intelligence.

In an effort to begin developing an Intelligence "virtual university," the Defense Intelligence community has undertaken a project, in partnership with a collection of training and education organizations who have shared interests and similar goals. They are networked together in a web-based environment for the purpose of expanding access to learning, decreasing costs, increasing collaborative information flow, and giving control to the user. It empowers students by making the full spectrum of training and education easily and readily available online.

Although most production community managers have succeeded as analysts, many of them are not as proficient in developing analysts. The leaders who shape the analytic working environment over the next decade must have superior skills for developing analysts, as well as outstanding technical expertise in the preparation of high-quality intelligence for our customers.

Although there are examples of DoD joint training efforts, most organizations continue to perceive training, even in entry-level analytic tradecraft, to be unique to a specific agency and therefore proceed with independent initiatives. Cultural biases and lack of funding are the main impediments to more IC collaboration on training and career development.

Managing the Skill Mix

By the end of the decade, the Intelligence Community aims to have a highly skilled, world-class work force that has adequate funds and staff to perform both traditional and non-traditional missions. In many cases, these missions are operationally focused, requiring analysts to function in a crisis environment, more often than not on lower priority countries. At the same time, the Community must continue to ensure that it has sufficient analysts and expertise to cover its highest priority targets. Much of the effort to determine knowledge and skill requirements has to be based on empirical methodologies for determining substantive, needs-based analytic requirements for today and tomorrow.

To meet these goals, the Community must:

- Develop more systematic and empirical methods of determining current and future analytic resource requirements.

- Determine the appropriate balance between resources for the in-house work force and outside experts.

- Adopt less onerous but more precise processes for gathering data on IC analytic skills, knowledge, and expertise.

The Community should do more in developing empirical methods to plan for future analytic personnel requirements, especially taking into consideration the role of outside expertise. It has, however, made some strides in building databases to track knowledge, skills and experience. The Defense Intelligence community, for example, has initiated development of several personnel management systems and employee databases collaboratively.

The ADCI for Analysis and Production is developing an IC-wide capability for the NIPB, building upon the work already under way in the Community. While no single organization is collecting all of the key data required for an IC-wide capability to measure expertise and monitor depth, their cumulative work provides a sound foundation for the development of an IC analytic skills database and tracking system.

The building of skills databases is a first step in developing needs-based analytic requirements related to future work force size and expertise. The Community should increase efforts to develop corporate, empirical methodologies to determine IC-wide staffing needs; ensure that it has the bench strength to meet current intelligence requirements; build knowledge and expertise; and allow for training and career development. The need to determine the appropriate balance between on-board and outside analytic expertise must also be addressed.

Recruitment, Hiring, and Staffing Strategies

The analytic community has taken several steps to recruit and hire highly qualified employees and provide them with a work place environment that encourages career growth in analysis. For example, the National Imagery and Mapping Agency (NIMA), the National Air Intelligence Center (NAIC), and the National Ground Intelligence Center (NGIC) have employed "signing bonuses" to recruit and hire geospatial and imagery analysts, scientists, and engineers in hard-to-fill disciplines.

NIMA has taken advantage of new personnel management authorities to implement pay banding—flexible monetary compensation programs. The pay bands will provide flexibility for compensating analysts as they reach desired levels of proficiency. NIMA is the only NIPB organization to adopt pay banding and has initiated it on a relatively small scale.

The National Intelligence Officer for Science and Technology (NIO/S&T) and the IC Advanced Technology Group are leading a Community working group to develop future cross-agency requirements for scientific and technical analysis. Part of this effort focuses on the S&T work force, including analysts. The goals are to ensure IC access to world-class technical talent, sustain an evolving learning environment, foster business process reengineering, and establish criteria for robust investment. Part of this effort will focus on refining personnel management practices.

While all of these initiatives add value, the analytic community must take a more coherent and collaborative approach to personnel management. Recruitment and hiring must take place at all levels—entry, mid-career, senior, and executive. There probably will be a requirement for a more mixed analytic work

force, consisting of on-board employees who are both long-term careerists and short-term (two-five years) specialists, as well as consultants and contractors. Most economic forecasts predict that there will continue to be shortages of skilled employees in science and technology fields. This means that Intelligence Community recruitment and hiring practices will have to be innovative and aggressive and that management practices will have to be adjusted so that the Community can meets its expertise requirements.

In addition to changing recruitment, hiring, and management practices, the analytic community will have to adopt more coherent placement strategies for its on-board work force. We must pay closer attention to rotational assignments, which should contribute both to developing analysts as intelligence officers and to building substantive expertise and knowledge. To facilitate this effort, bold partnerships with academia, industry, the government laboratories, and other federal agencies with national security portfolios need to be established. Analysts need more opportunities to serve in beneficial rotational assignments that build and sustain expertise and provide professional experiences from an alternative perspective.

Initiatives that aim to provide analysts the same opportunities as managers to reach the top ranks encourage analysts to remain on accounts longer, thereby strengthening in-depth knowledge and expertise. Recommendations for increased career progression to senior ranks, however, have to be weighed against other investment issues. One, in particular, is the rising share of personnel costs as part of the overall intelligence budget. This factor weighs heavily in production organizations' calculations, because analysis is a people-focused mission.

Cultivating the Talents of a Diverse Work Force

Over the next decade, demographic trends in the United States suggest women and minorities will constitute a growing majority of new entrants into the American labor market. The DCI has stated that diversity is a powerful tool that can help us meet the intelligence challenges of the coming century. To extract maximum benefit from diversity, the Community must not only increase the diversity of the work force, but also use the many talents of the men and women who are already with us to optimum advantage.

The IC must take bold and serious initiatives to achieve the DCI's stated goals in this area. We must:

- Treat this "people issue" as a high priority, giving it the same level of commitment that we place on difficult intelligence problems.
- Ensure that every analytic organization maintains demographic data.
- Set goals and define measures of success.
- Establish leadership and managerial accountability for ensuring that all segments of the work force succeed.
- Conduct regular evaluations of the progress of all analysts to try to anticipate, as well as address, disturbing trends affecting demographic subgroups.

- Evaluate remedial strategies to determine effectiveness.

We must ensure that every person hired has the opportunity to compete for the highest positions. This includes making sure that all employees have equal access to training, education, and assignments—especially high-visibility positions that lead to senior appointments. It is not enough just to employ a diverse work force. We must ensure that those with different perspectives have a seat at the table and a meaningful voice in the discussion.

Investment Strategy to Build Analytic Expertise

Building and sustaining analytic expertise will be enhanced by Community-wide adoption of relevant and coherent business practices, coupled with innovative personnel management. The strategies and implementing actions discussed here are a combination of building on the best business practices of current NIPB programs, and new initiatives to develop and sustain analytic expertise. Needed are empirical methodologies to determine required substantive capabilities and skills; funding and staffing adequate to meet mission and expertise requirements; enhanced opportunities for work force training and career development; and optimal expectation of the benefits of work force diversity.

To achieve these capabilities, the analytic community will:

1. Establish a robust IC training and career development program, identifying common training requirements, supporting the "virtual university" concept and developing options for a National Intelligence Academy for IC training and education.

The NIPB will develop requirements for an interagency analytic training program with required curriculum and designated training positions. This will provide for increased joint training opportunities and a back-fill capability that allows all IC analysts to engage in needed developmental experiences. Coherent career development systems that link training, education, and assignments will support analysts at all stages of their careers.

Implementing Action:

- Develop common training requirements for management, analytic tradecraft, and collection disciplines familiarization by FY 2001.

- Acquire designated training positions in future years to allow ten percent of the analytic work force to fulfill training and education requirements.

- Replace the conglomerate of training courses and career development programs with a coherent career system.

Most analytic organizations understandably stress mission-related activities over career development and training. To ensure the latter areas receive the attention they deserve at a Community level, the NIPB should direct establishment of an IC forum under its auspices to work training and career development issues. In addition to NIPB members, others, such as human resources and training specialists, should be invited to participate.

Implementing Actions:

- Establish an NIPB sub-committee for career development and training and to begin exploring options for a National Intelligence Academy.

- Support the development of a web-based "virtual university."

- Evaluate/implement the findings of the ADCI/AP analytic training needs assessment.

- Ensure funding for, access to, quality training/education, and assignments to build expertise.

2. Adopt innovative recruitment, hiring, staffing, and retention strategies to build expertise.

Building an analytic work force for the 21st century requires adopting a new business paradigm or model for recruitment, hiring, and staffing. This not only includes establishing market-driven pay categories for hard-to-fill occupations, but also adopting more flexible personnel management policies and regulations. Currently, most Intelligence analysts are recruited and hired at entry level. However, some issue areas can only be addressed by analysts with specialized skills and expertise. When home-grown expertise is insufficient, the IC must be prepared to pay market rates to hire outside analysts at what are normally regarded as senior positions. Although there would not be many such hires and they would not necessarily remain to complete a career in intelligence, they might be the only way to acquire the in-depth knowledge and high degree of expertise that is required to tackle some of the more difficult problems. Ideally, such high entry-level positions would be time-limited appointments, to be extended and renewed as required.

Implementing Actions:

- Establish market-driven pay categories to recruit/compensate analysts in highly competitive skill areas.

- Increase senior- and executive-level hiring.

- Expand use of time-limited appointments.

- Expand tiered work force: a mix of long-term careerists, short-term employees (two to five years), and annuitants/contractors/consultants.

Rotational assignments, if designed and tailored to allow analysts to continue working in a useful knowledge area, can be one of the most important and rewarding components of career development. To build and sustain expertise, rotational assignments must meet the criterion of either enhancing an analyst's knowledge of a core specialty or providing broadening insights into a complementary discipline. Expansion of the Community's rotational partnerships with the private sectors, academia and other government agencies is especially important for the S&T analytic work force.

***Implementing Action*:**

- Establish expertise-building or -broadening rotational assignments (overseas programs, partnerships with academia/private sector).

Career progression as an analyst in the Intelligence Community must include the ability to reach senior ranks without having to transition to management, if a strong cadre of analysts with sustained expertise is to be developed. Over the next decade, NIPB organizations should increase the number of senior positions open to analysts.

Implementing Action:

- Conduct annual reviews of all senior/executive positions to develop appropriate balance.

Career patterns of many types of employees entering the US work force over the next decade will be characterized by greater mobility than those of their predecessors, and this trend is likely to affect the Intelligence Community as well. We must be prepared for, and, in many cases, embrace a segment of the work force that will transition back and forth between the private sector and government. These employees will take responsibility for their own job satisfaction and may be attracted to the IC by the opportunity to obtain skills and knowledge that they may not be able to acquire if their career spanned only government, industry, or academia.

Implementing Action:

- Develop flexible personnel security policies to accomplish missions and protect secrets amidst less fixed work force patterns.

3. Adopt empirical methodologies to determine requirements for analytic work force size and skill mix.

Much of the effort to determine knowledge requirements and identify areas for investment has to be based on accurate personnel and skills data. In addition, we must be able to discern which of the analytic community's core missions require continuous in-depth expertise and should be performed by an in-house work force, which can be fufilled by employing various types of external expertise, and which need a combination of Community and outside resources to meet analytic requirements.

Implementing Actions:

- Perform an IC-wide needs assessment to determine the appropriate size of the analytic community. (Consider growth in personnel costs; allowances for training/surge; generalists vs. specialists; long- and short-term employees and contractors; in-house and external expertise balance.)

- Continue funding to develop agency and IC skills databases.

4. Develop and effectively manage a diverse analytic work force.

If we are to retain our capability to provide our customers with a decisive information advantage, we must, according to the DCI, "learn to recognize diversity as the valuable asset that it is." The corporate world has already determined that diversity means profits, and we can also realize intellectual dividends if we know how to get the most out of a diverse work force. This means not only intensively recruiting women, minorities, and the disabled, but also ensuring that we have policies, practices, and procedures in place to ensure that all employees achieve their full potential. We cannot afford to waste the talent of even one employee—much less entire groups of analysts.

Our training, career development, and staffing strategies must be optimized to ensure that we use the talents of all members of the work force to their fullest extent. Managers and leaders must be held accountable for the growth, development, and progression of all analysts. We must ensure that analysts with different views and perspectives are full players in the analytic process at all levels.

Implementing Actions:

- ADCI/AP sponsor a review conducted by outside experts to determine causes of under-representation.

- Develop specific strategies to address causes and barriers and establish accountability for fixing them.

- Establish goals and define measures of success.

- ADCI/AP conduct an annual review to monitor progress on: representation, training, education, compensation, assignments, promotions, etc.

Technology

Goal: To make available to analysts commercially developed or customized collaborative integration and analytic tools that will support the best quality and most timely analysis possible, with due consideration to cost and security; to provide analysts and customers seamless access to data, information, and expertise in a total knowledge management environment.

Desired Outcomes:

FY 2005

- *Fully interoperable collaborative tools deployed across the IC and to key outside experts.*
- *Collaboration environment shared with collectors to facilitate tasking and feedback.*
- *Customers have full access to collaborative and knowledge management environments if they desire.*
- *Digital production allows dynamic updating of a living knowledge repository.*
- *Object-oriented user interface for all major data stores, fully linked to visualization tools.*
- *Analytic and cognitive tools for all analysts to organize information and visualize connections.*
- *Pilot capability for rapid multi-discipline data fusion/integration and dissemination.*

FY 2010

- *Synchronous tools allow secure collaboration with experts any time from anywhere.*
- *Fully interoperable data stores make sharing information seamless within the IC.*
- *A dynamic knowledge base is fully accessible from anywhere at any time by authorized users.*
- *Knowledge base linkage to collectors with information needs/gaps automatically identified.*
- *Single search using natural language prioritized responses, with visualization tools.*
- *Smart push and pull, automated summarization and database population reduces filtering task.*
- *Cognitive tools will assist analysts in conceptualizing, testing, and substantiating analysis.*
- *Robust capability for geographic, temporal, and phenomenological near-real-time data fusion, integrated analysis, and dissemination.*

Chapter 3: Technology

Beyond expertise, technology is the most important, but also most expensive, enabler for an analyst. Analytic organizations have invested heavily in IT to provide analysts the tools needed to do their job. The IC has also made a huge investment in secure communications on which both the collection and the analytic and production communities rely.

The Changing Face of Technology

Technological change has accelerated dramatically over the last decade. Although improvements in information technology have helped analysts keep pace with the increasing workload at a time when resources and manpower have declined, they have been a mixed blessing. Many of our administrative and processing functions have devolved to line analysts. One recent study indicated that in one organization nearly 40 percent of an analyst's workday is spent in activities that do not contribute to finished production. Moreover, the pace of technological change overwhelms many analysts.

Technology is widely viewed as critical for the production of intelligence. Even if past personnel reductions are partially reversed in the future, improved communications and collaborative tools will still be needed to keep pace with the demands of our customers. The Community is already spending significant resources and effort to improve current capabilities and advance towards a true collaborative and technologically enabled workplace. But, much more needs to be done if we are to reach our goal of getting control of our chief resource—knowledge—with the help of emerging knowledge management technologies. To achieve our goal, we need to focus on three distinct, but overlapping, areas:

- **Collaboration.** How can we collaborate to ensure that our systems are interoperable and capable of sharing information in a timely fashion with those with the required expertise? (Underpinning our ability to collaborate is **connectivity** across elements of the IC and between the IC and its customers.)

- **Databases.** How can we improve the corporate management of resources so that we can adapt more swiftly to changing threat environments by sharing information through interoperable databases that are easy to access and use?

- **Analytic tools.** How can we, as a Community, help our analysts deal with the problem of information overload—a problem that is likely to increase with more collection, collaboration, and access to data? What is the most effective way to cooperate in developing integration and analytic tools to help our analysts better organize and exploit information and produce the best assessments possible?

Collaboration: Pooling Knowledge To Get the Best Answer

From an analytic standpoint, the goal of collaboration is to assemble the right expertise in a timely fashion to provide the best analysis to

Ongoing Activities to Link the Community Through Technology

Several Community organizations or initiatives, organized at the DCI's direction over the last two years, are helping NIPB organizations to address the current technology challenges while positioning the IC for the future:

- *The Intelligence Community Chief Information Officer (IC CIO) has provided a central focus for the technical issues associated with collaboration and information sharing. His Capabilities Roadmap lays out a structured approach to prioritizing requirements and guiding resource and policy decisions. It addresses difficult security issues like deploying Public Key Infrastructure (PKI) technology and leading the organization of IC on-line directory services.*
- *IC CIO direction has helped position the IC to address technology needs. It has already played a major role in advancing collaboration by organizing the Community collaboration and database forums and by formulating Intelligence Community functional requirements and developing an Intelligence Community concept of collaborative operations for 2010.*
- *ADCI/AP, at the direction of senior Intelligence Community leaders, has promoted the use of collaborative technology by sponsoring two studies, one baselining the IC's current collaborative capabilities, and a follow-up study to examine "best practices" and the use of metrics in current pilot efforts.*

the consumer—regardless of where in the analytic community the expertise resides. The expectation flowing from the DCI's ***Strategic Intent*** is to deploy tools that will establish a shared, electronic working environment for all communities of interest—including outside experts, industry, and academia—in a "virtual workspace."

As a Community, therefore, we need to build toward:

- A virtual work environment enabled by collaborative tools, data integration tools, policies, and a security framework that allow analysts to share knowledge and expertise.
- An environment that connects native desktops across the IC with appropriate security to convey/share knowledge, while linking analysts to collectors, consumers, and outside experts.

Each of the agencies is already aggressively developing collaborative processes and tools to help them work more effectively within their organizations and with larger communities. Most of the technology is based on commercially available platforms and software, allowing them to migrate to an IC environment that is fully interoperable. In addition, the program offices are talking to each other regularly, trying to derive lessons from each others' experiences. Interoperability testing under the auspices of IC CIO is already underway.

The Community has made a solid start in deploying collaborative tools, but it has a long way to go. It is still at the pilot stage of deployment even in the more advanced communities of interest, and most analysts have limited access to collaborative tools. Fewer than half of the IC analysts have access to any collaborative environment other than a classified version of the Internet. Far fewer regularly use any collaborative environment. Moreover, agencies are still coming to grips with nagging cultural issues and struggling to bring about enterprise-wide deployment. Key security issues and lack of agreement about rules of engagement are still major impediments to collaboration across the IC, let alone with experts outside the IC.

Database Interoperability: Empowering Collaboration

To provide the substantive information necessary to make collaboration work and improve the ability of analysts to access, share, manipulate, and integrate data, the analytic and production community has focused on changing the way it holds and stores data, information, and knowledge. One expectation flowing from the DCI's ***Strategic Intent*** is to develop a data storage system that links the Community's primary technical collection databases to the Community's global communication system. Another objective is to provide intelligence to customers faster with new digital products that permit data mining, customer 'push' and 'pull,' immediate customer feedback and the ability to influence intelligence tasking requirements.

To move us along in this direction, we need to develop, within the context of a knowledge management strategy:

- Secure, reliable access to all intelligence data at any time, from any location for all those with a need-to-know.

- Databases that must be easy to fill, maintain, update, and validate, while avoiding needless duplication and providing a common knowledge base for the entire Community.

Database issues are finally getting the attention they require. Several strategic plans, starting with the DCI's ***Strategic Intent***, are focusing attention on database issues. The ***Strategic Intent*** envisions the Community working collaboratively not only through better connectivity and tools, but also through increased data-sharing. A key element in this effort is to achieve consistent tagging of information. The Intelligence Community Chief Information Officer (IC CIO) recently blessed a metadata standard for intelligence information.[2] More work, however, has to be done to standardize tagging of intelligence content.

This means the Community will need to fundamentally rethink the way it stores and manages its information.

- In the future, the IC will rely on an *infosphere*, and its secure and classified sub-set, the *intelsphere*, which is the virtual knowledge repository of authoritative intelligence information, relevant reference material, and resources used to store, maintain, access, and protect this information.

Much of the impetus for these efforts has come from DIA and the Defense Intelligence community. They have been in the forefront of many of these efforts, which contribute to the goal of the Chairman, Joint Chiefs of Staff in his ***Joint Vision 2010***: "attaining a decisive information

advantage and achieving a common operating picture." Defense Intelligence has been extremely active in developing the concepts underpinning knowledge management in order to provide full battlespace visualization to warfighters and military planners.

Database interoperability and knowledge management are still in their infancy and face formidable challenges. The simplified, single interface for data and information that analysts want is still far off in the future. Analysts still face many impediments to access to the information they need. They should not have to master numerous specialized software and tools, for which they lack the time or the inclination. Proven search strategies or analytic techniques should be widely shared and easy to access through some "best practices" mechanism. Analysts also need access to reliable expertise finders and robust directory services. Communities of Interest (COIs) should also not unduly restrict them in searching out needed information and expertise in areas parallel to their own. Visualization and data-mining tools should not require extensive analyst input to function effectively.

Analytic Tools: Coping with Information Overload

The development of analytic and data integration tools will be one of the most important and expensive areas for the analytic and production community. Without such tools, the shrinking analytic work force will have no hope of managing the flood of new intelligence information or shifting smoothly from one crisis or issue area to another. To achieve progress, we need to develop:

- An automated analytic workflow process relying on advanced analytic tools, such as visualization, search and processing, knowledge management and dynamic updating.

- New tools that reveal connections, facilitate analytic insights and deductions and streamline search by prioritizing information, automatically populating databases, and integrating data.

One of the foremost challenges for analysts today is coping with the daily flood of information. Several analytic tools are currently being deployed to facilitate collaboration and assist in managing this ocean of information within workgroups or communities of interest. These tools allow junior or newer analysts to tap the expertise of knowledgeable senior analysts and colleagues through the sharing of data sources, advanced search parameters and thresholds, and knowledge maps against which searches are run. They also allow the information to be displayed graphically, facilitating insights or drawing parallels that might otherwise escape notice.

Analytic tools are just beginning to become broadly accessible. Many are being deployed within individual programs, even if they have broader utility. In some cases, security problems are limiting their effectiveness or availability. Like collaborative tools and database efforts, these tools must be user-friendly and not require extensive training. They also must avoid requiring extensive front-end analyst input to function effectively. Finally, they need to be highly adaptable to analyst needs.
In addition, further efforts must be undertaken to develop databases, tools, and techniques for rapid multi-INT data fusion/integration, analy-

[2] Metadata tagging is critical because it will provide a consistent referencing system for intelligence information. Metadata is data about data. It includes information such as date of distribution, classification and other security restrictions, source of information, date of information. It can also provide information about content of the information, although considerable work needs to be done to achieve consistency in this area.

sis, and exploitation. Large scale databases, advanced algorithms and high-bandwidth communications are key technology enablers for this goal.

Technology has frequently been developed with the analyst in mind without adequate consultation and awareness of line business processes or requirements. As a result, many tools have languished unused. The IC has neither the funds nor the time to develop capabilities for which there is no need or market. Organizations developing or customizing commercial tools need to work intimately with users to assure the best fit of technology to needs, while allowing for revolutionary, not just evolutionary, change.

Investment Strategy: Recommendations and Initiatives

In order to meet the requirements of this priority area, the IC must invest in the following areas:

1. <u>Collaboration</u>. Collaboration will require a consistent and costly effort to deploy collaborative tools and focus on overcoming cultural and business process obstacles. We need to link analysts to collectors, customers, and forward-deployed analysts in a collaborative environment by 2005.

Implementing Actions:

- Establish an IC collaboration center, under an executive agent, with contractor and Intelligence Community staffing, to lay out a roadmap to move from pilots to enterprise and IC-wide deployment. The center will focus on integrating programs, technology, improved processes, and human resources across the enterprise to meet the challenges of federated, knowledge management in a collaborative environment; mapping, testing, and recommending improvements to community analysis and production processes in key business areas; identifying metrics and codifying best practices; and, facilitating the integration of advanced analytic tools and methods into production processes.

- Fund and study additional collaboration pilots through FY 2003, with a view to migrating toward common IC standards that will allow interoperability.

- Pursue more extensive interoperability testing of current tools and identify a strategy for providing IC-wide collaboration by FY 2003.

- Advance security issues to enable collaborative analysis during FY 2001.

- Deploy collaborative tools within NIPB programs to create a critical mass of experienced users. By FY 2003, tools should be available on the desktops of all analysts in the large national analytic agencies, and should be available to all NIPB analysts by FY 2005.

2. <u>Databases</u>. The Intelligence Community needs to start immediately reducing cultural and technology barriers to data sharing. NIPB and Community organizations are already taking several initiatives to advance database interoperability.

Implementing Actions:

- Commit NIPB organizations to interoperable

database development and line up their participation in an IC database forum. Establish a baseline inventory of databases critical for analysts to access and share.

- Identify some pilot efforts to improve sharing of data.

- Form a working group to frame an NIPB-wide approach to addressing the resource issue of coping with new data sources, both classified and open source.

- Identify the National Intelligence Council (NIC) as a community testbed for digital production processes on Community products beginning in FY 2001. Candidates include the full range of NIC products.

- Support IC efforts to make finished intelligence and database information more accessible.

- Endorse the Defense Intelligence community's efforts to improve fill rates and make military databases easier to use and access across the IC. Look into how to integrate similar efforts at NSA and CIA to make sure the most comprehensive and up-to-date information is accessible across the NIPB.

3. <u>Analytic Tools</u>. Deploying analytic tools to help analysts deal with the flood of new and existing sources of information by 2005 will require an expensive and focused effort. To manage this process the NIPB needs a plan that includes the following elements.

Implementing Actions:

- Identify executive agents for key technology efforts to conserve resources and reduce stovepipe approaches over the FYDP. This step needs to be taken immediately to better coordinate efforts in an area where many informal exchange mechanisms now exist.

- Designate the new IC collaboration center as a central clearinghouse for efforts in tool development and deployment and for lessons learned. Include an approach to accelerate analytic tool deployment in a roadmap that the cell will develop for IC-wide efforts in FY 2001.

- Focus the IC's reasearch and development (R&D) strategy on supporting analytic tool requirements, providing a study in late 2000 on how the commercial sector deals with analogous problems, and suggesting some lessons learned that would apply to the IC.

- Conduct a study in FY 2001 of the level of effort required for analytic tools over the next ten years, to be incorporated into the collaboration roadmap in time for inclusion in FY 2003 budgets.

- Develop a seal of approval program to encourage the use of commercial off-the-shelf (COTS) rather than government off-the-shelf (GOTS) whenever possible.

- Provide adequate funds through FY 2010 to support full-scale deployment of highly capable analytic tools, many not yet developed for the commercial sector, that will be needed to search the huge volume of existing data stores and new sources that will be arriving at the analysts' workstations.

- Support and expand technological innova-

tion associated with data fusion algorithms and processes across all collection and analytic disciplines.

- Closely track the new tools and concepts that will emerge from the R&D sector and work closely with this sector, helping to steer its current efforts.

Intelligence Priorities

Goal: To foster development of coherent strategies to establish substantive priorities that meet the competing demands of policymakers, military planners, and law enforcement officials for current intelligence, long-term analysis, and strategic warning, and to provide collectors with more specific requirements guidance.

Desired Outcomes:

FY 2005

- *An improved priorities process to deal with potential crises.*
- *Requirements guidance to collectors is specific enough to support collection tasking systems.*
- *DCI launches fully resourced IC strategic assessments component.*
- *The DCI priorities framework is hosted continuously on web-based software, with analysts, collectors, and consumers having access to the system.*

FY 2010

- *Quarterly reviews of automated national-level priorities by the analytic community occur.*
- *Comprehensive processes are established to identify potential crises and conduct oversight to ensure appropriate analytic and collection responses.*
- *A National Strategic Estimates Center is established, with full policymaker participation and financial support.*
- *The IC can meet all demands for strategic analysis by policymakers, military planners, and law enforcement officials.*
- *IC strategic warning integrates policy and defense communities in an Intelligence Community program supported by full-time methodologists and gaming experts.*
- *Full electronic collaboration on prioritization of tasking, production, and dissemination exists.*

Chapter 4: Intelligence Priorities

The analytic community has little difficulty in establishing strategic priorities. However, it is much harder on a continuing basis to translate such priorities into practical production guidance for a dozen agencies with different missions and customers, who increasingly expect tailored support. The post-Cold War emergence of a distributed threat environment, in which priorities often shift, has further complicated the effort. The NIPB believes that closer collaboration among IC agencies is the key to improving strategic analysis and warning and developing a dynamic national prioritization process capable of confronting the new threat environment.

The New Threat Environment

Threats to the United States today are more diverse and dispersed than during the Cold War, and intelligence priorities shift frequently, complicating planning for both collection and analysis. Consumer requirements will only expand in this environment, as will the demand of collectors for analytic guidance on priorities. In addition to traditional military threats and long-standing concerns about proliferation, narcotrafficking, and terrorism, the Intelligence Community must respond to policymaker demands for information on and analysis of various regional conflicts, refugee crises, peacekeeping, humanitarian emergencies, environmental problems, global health issues, technological developments, key economic trends, and myriad other complex issues.

The post-Cold War challenge has been further complicated by the revolution in information technology and telecommunications, which has fundamentally transformed the globe we cover, the service we provide consumers, and the work place in which we function. We are flooded with information, only some of which is valid, relevant and useful. Much open source material is relevant to our needs, but the Community is dealing with it inefficiently, via multiple, often unconnected initiatives.

Our adversaries, unable to challenge the United States militarily, will nevertheless increasingly have ready access to critical information, to enabling technology, and to sufficient finance to target US interests in new ways. We call this the “asymmetric threat.”

These changes in the national security environment, the revolution in information technology, and a smaller analytic work force have intensified the competition for analytic resources to meet both long-term priorities and near-term requirements. Responding to day-to-day intelligence requirements driven by crises and other topical national security issues often means that significant numbers of analysts are diverted from their primary duties and areas of expertise. Thus, the analytic community must choose and limit which intelligence issues and targets receive priority coverage. The Intelligence Community and its consumers have established a multi-layered priorities framework. Because of their different masters, missions and customers, analytic organizations are unlikely to submit to centralized control of IC production priorities, but better coordination is both possible and desirable.

Mindful of the aforementioned difficulties and obstacles, during the next decade the NIPB seeks in particular to:

- Improve the national-level priorities process.
- Increase capabilities to perform strategic analysis.
- Develop better warning methods and procedures to avert surprises and prevent intelligence failures.

The NIPB Game Plan

The NIPB recognizes that establishing substantive priorities is a resource management issue of fundamental importance to the Intelligence Community. The experience of the past decade demonstrates that the analytic and collection communities—with their limited resources—must revise the current framework so that it links the components charged with establishing priorities and providing guidance. The framework also must be agile enough to allow for individual NIPB analytic organizations to respond to their customers' highest priorities and tailor their work forces, products and services to meet consumer requirements (See Box, Intelligence Consumers).

Collaboration among NIPB organizations will ensure that certain standing priorities will have enough overlapping coverage to permit necessary competitive analysis and to ensure that these places and problems receive in-depth and multi-dimensional coverage as needed to really understand them and to maximize the likelihood of effective US policies to deal with them. Community collaboration will also encourage development of new strategies to deal with global coverage and crisis support requirements. Collaboration will foster the development of rational and coherent analytic production strategies across the NIPB that are complementary, as well as effective in supporting resource management. Finally, collaboration on establishing substantive priorities to drive collection will foster development of an integrated collection requirements process for collection management across all of the collection disciplines.

To prioritize the demands of its wide range of consumers, the analytic community needs to do more than revise the national-level priorities framework—essentially a hierarchy of targets and issues. It also needs to develop a new matrix of priorities and requirements that assigns specific production responsibilities to NIPB organizations, and takes full advantage of complementary capabilities and opportunities for synergy. The need for such a matrix results from the obvious hazards of attempting to rank order or impose arbitrary priorities on the equally-important but very different analytic requirements of such national-level consumers as the President, the National Security Advisor, members of the Cabinet, and the Joint Chiefs. A matrix approach to aligning priorities and analytical resources could ensure that the unique—and critical—intelligence and analytical requirements of commanders, diplomats, and weapons designers are not degraded in the search for common requirements and all-encompassing priorities.

The first step in constructing a matrix to ensure that the priority analytic needs of the different types of intelligence consumers can be met with optimal efficiency is to establish a rough typology of consumers, issues, and analytical organizations. Using the matrix to fine-tune

analytical production would be an iterative process sensitive to changing customer requirements, advances in technology, lessons learned, and rigorous evaluation of results.

Reinvesting in a Strategic Analysis Capability

To some extent we have become the victims of our own successes. As world events have become more dynamic and the issues have become more complex, the demand for tailored intelligence analysis has increased. However, by focusing on the immediate at a time when the overall number of analysts was being reduced, we have allowed strategic, long-term analysis to languish. While we will still have to provide intelligence "on demand," we need to invigorate that part of the analytic community devoted to more long-term, structured analysis—the building blocks for national estimates and strategic warning. This will require expanding analytic depth and expertise, enhancing training, and promoting collaboration with collectors and external experts. We also will explore developing analysis and support processes that are less time and labor intensive.

The Warning Conundrum

Today's dispersed, fast-changing threat environment, in which the capabilities of US adversaries are increasingly enhanced by technological advances, challenges our warning officers as never before. Warning is designed not only to avert intelligence failures; it also strives to prepare consumers to respond to unanticipated developments—indeed, to expect such developments in the years ahead. Incorporating strategic warning in the process to establish and define substantive priorities will assist the IC in effectively managing resources to cover crises and standing requirements.

Investment Strategy

The Assistant Director of Central Intelligence for Analysis and Production (ADCI/AP) sponsored a review of the national priorities framework in which members of the National Intelligence Production Board, the National Intelligence Collection Board, and outside experts participated. The review concluded that a number of changes were needed to produce a more efficient and effective national-level framework to meet the rising expectations of consumers for high-quality analysis and collection guidance. In response to the panel's recommendations, the ADCI/AP has identified several requirements that are needed to improve strategic analysis and warning and has incorporated them into a new priorities strategy for the analytic community. They are:

1. An agile, accessible, and automated framework. Although all members agree that the Community needs some type of prioritization scheme, they stress that it must not only be customer-derived, but also dynamic, accessible, and appropriate for the current digital collection, production, and resource management environment.

2. A rational, coherent structure to support analysis, collection, and systems acquisition. Recognizing that the national-level priorities framework must support the current and future needs of the analytic and collection communities, the guidance must be both broad and specific—ensuring the necessary granularity to drive the development of collection requirements management systems, as well as future systems acquisition.

Intelligence Consumers

Intelligence consumers demand more than "just the facts"—they also want to know why reported events have occurred, how they differ from previous developments, and what they portend. Decisionmakers responsible for the overall management of international affairs and US national security policy want answers to broad questions about global trends, but they also want detailed analysis of developments in specific regions, countries, and subnational units. Military commanders want fine-grained assessments of troop strength, armament, and tactics, but they also need detailed information on water supplies, electric power, societal dynamics, and political dynamics in specific places. Weapons designers and those who devise tactics need to know what equipment manufactured by other nations—friends and potential foes—can do, along with very precise technical information and intelligence on how different systems interact.

Each of these consumers—and multiple subsets of each—has different intelligence requirements and priorities. For example, the Secretaries of Defense, State, and Treasury have partially overlapping but largely distinct policy responsibilities and consequent intelligence requirements. Subjects that are high priorities for one typically rank much lower for the others. The same is true of the military commanders, on the one hand, and the civilian policymakers on the other hand. Their analytic needs are different, but they cannot easily be prioritized one against the other.

Some policymakers say they want "big picture" assessments that provide context and checkpoints for the formulation and evaluation of broad policies and specific undertakings. Others say they want intelligence and analytical support keyed to their immediate agendas. Experience has shown, however, that even the best-informed and most thoughtful customers sometimes have only a vague idea of what they will actually require and frequently change their requests and priorities in response to external developments. Moreover, all intelligence consumers want premonitory analysis that will enable them to avoid surprises and take full advantage of early warning of problems and opportunities. In other words, intelligence analysts must provide information that consumers did not realize that they needed, in addition to responding to their explicit and implicit requests.

3. Balancing resources to deal with priority targets and global coverage requirements. The national-level priorities framework and the NIPB production matrix will have to address the issue of competing requirements to ensure sustained intelligence focus on the high priority targets, as well as appropriate emphasis on strategic analysis and global coverage. The latter is important so that the Community retains the capabilities to surge for crises that may develop anywhere, on any substantive issue.

4. Integrating national priorities documents and strategic analysis. To prepare for future intelligence challenges, the national-level priorities framework should integrate strategic estimates and analytic products into its calculations. Combined with adding accountability to the "warning" and "risk management" procedures, these changes will minimize the chances of strategic surprise and intelligence failure.

5. Improving IC capability to perform strategic analysis. We must improve the capability of the analytic community to perform in-depth research and build substantive expertise across the NIPB.

6. Improving strategic warning. Among other advances, we should apply greater analytic rigor and methodologically grounded approaches to our assessments.

7. Streamlining processes to ensure accountability. Processes associated with setting national-level priorities and developing a NIPB production priorities matrix must be uncomplicated, manageable, and ensure accountability.

Implementing Actions:

- The ADCI/AP will inaugurate an NIPB working group to develop guiding principles and a concept of operations for a new DCI-managed national-level priorities framework with a dynamic and continuous process to circulate and update DCI priorities.

- NIPB agencies and the NIC will increase investment in strategic analysis over the next ten years to boost the quality and quantity of their output and to respond to the growing demand from policymakers, Commanders-in-Chief (CINCs), and resource planners.

- The Chairman of the NIC will strengthen the role of the DCI production committees in the strategic analysis process. This will involve policy changes that broaden the responsibilities of the committees in supporting a broader range of IC missions and consumers and, beginning in 2002, it will include modest increases in funds for technical analysis.

- By 2002, the Community's warning staff will expand to include professional methodologists who will routinely structure IC games, as well as competitive and alternative analysis, on long-term and short-term issues of high stakes to the United States. The IC recognizes the growing need for this capability to test analytic assumptions and judgments for both current and estimative production, especially when collection shortfalls engender significant debate among analysts.

Customer Support

Goal: To provide our consumers with the best, custom-tailored intelligence whenever and wherever they need it, to develop more rational business processes that will help us better distribute the production burden, and to enhance our ability to evaluate our performance against standards of analytic tradecraft and the needs of our consumers.

Desired Outcomes:

FY 2005

- *Improvements in web-based technologies, development of communities of interest, and advances in security lead to better tasking, tracking, and dissemination of product.*
- *Common methodologies adopted for evaluating product/customer satisfaction; ADCI/AP producing annual report that evaluates our performance on key analytic issues.*
- *Coordination on current production increases through use of digital production.*

FY 2010

- *A seamless production environment means customer requests are easily tracked; on-line communication with customer is interactive; multiple security domains and communities of interest working smoothly.*
- *Community evaluation program well-established; common methodologies provide useful trend data.*
- *Joint Program of Community Analysis results in better distribution of labor.*

Chapter 5: Customer Support

The Intelligence Community's number one priority is to provide its customers with the best possible custom-tailored intelligence whenever and wherever they need it. Our ability to do so depends, in large part, on how well we understand and respond to their needs and on how much our products help them do their jobs. Therefore, our investment strategy for maximizing customer support must:

- Enhance direct linkages between analysts and consumers to encourage a continuous dialogue and sustained feedback, which will permit us to improve service and adjust priorities as necessary.

- Manage expectations so that our customers are realistic in their taskings and better appreciate what we can bring to the table, and, conversely, focus our analytic efforts on priority issues rather than stretch resources to meet every request.

- Develop common metrics and methods of assessing customer satisfaction to evaluate our performance and more effectively argue for analytic resources, when needed.

- Eliminate needless duplication among Community components and actively encourage collaboration in production and marketing of each other's product.

Our Changing Customer

Today's intelligence customers have more information at their finger tips than at any time in history. They are better informed, more focused in their tasking, and more exacting in what they expect from intelligence. More often than not, they want tailored support for their own specific, narrowly-defined agendas. Consumers are more critical of what we deliver, and paradoxically, more demanding as our response times improve with technology. Also available to them, in an abundance their predecessors could not imagine, is an array of easily accessed alternative sources of information from beyond the Intelligence Community.

Changing customer needs and expectations, as well as the transformed information environment, make it imperative that the analytic community restructure its business practices and production processes, reexamine its relationship with customers, and look for ways to reduce duplication and more effectively use information that already exists within the Community.

Managing and Measuring Customer Demand

Today, most agencies use a combination of people- and technology-based methods to help identify and respond to customer demands. Anecdotal evidence and rudimentary statistics indicate that most agencies are relatively successful in both areas. Nevertheless, the analytic agencies continue to wrestle with how to better measure and manage customer demand, and all are aggressively refining mechanisms already in place.

The national intelligence agencies and smaller single-customer intelligence units within the

analytic community tend to be heavily people-oriented on the front end of the request-and-response chain, while relying on technology at the back end to capture statistics on customer demand and analytic production. The larger military intelligence producers, in contrast, are automating their request, tasking, and response systems—at both the front and back ends—to serve a scattered and diverse constituency.

Much of the current focus—especially in the larger national and military organizations—is directed toward the long-term goal of creating an integrated electronic production environment. The large organizations, for example, are making strides, albeit somewhat uneven, in tracking customer requests and in recording and capturing production flow, an effort that will become increasingly critical if we are to develop common "knowledge warehouses" that are easily accessible to our customers and to each other.

Although the relatively unsophisticated mechanisms used within our Community to manage and measure customer support have been adequate to date, they do not meet the needs of the Community as the workload expands. In addition, we are being asked more frequently to justify our expenditures and activities. We must be able to demonstrate the connection between demand and production in much the same way as the commercial world currently does. We must also show that we are working cooperatively to realize cost efficiencies and develop interoperable systems. Despite different missions and customer bases, technology is driving us down similar paths, and we can capitalize on one another's efforts and better justify resources if we tackle these problems together.

Disseminating our "Product"

The manner in which we disseminate our product is undergoing a rapid transformation. Indeed, improvements in dissemination technology have led us to expand what we mean by the term "product." Although we could not do so just five years ago, most of us can now conceive of an intelligence environment in which consumers and producers are electronically and securely connected at different levels of classification and access, the flow of information between and among us is continuous, the format and type of media are tailored to customer preferences, and products are continuously updated and added to knowledge warehouses. In such an environment, customers would be able to access information at any time from any location, and "products" might be defined as traditional analytic assessments, multimedia presentations, or simply bits of data and information.

At present, we are in a transitional stage, trying to adjust to these new and still evolving technologies while dealing with customers who are demanding more timely delivery of more relevant intelligence. Our various agencies are responding to the challenge in many creative ways:

The good news in our various efforts is that we are all looking toward web-based solutions and using predominantly commercial operating technology to build and refine our distribution systems. This means that our separate paths are likely to lead toward the same destination. As a Community, however, we must work more closely to realize cost efficiencies, take advantage of each others' successes and failures, and ensure that agencies ultimately can operate

DoD and CIA: Reengineering Production for the Future

Both CIA and the Defense Intelligence Community are aggressively reengineering their production processes. Both plans emphasize essentially the same goals—faster dissemination of product and better satisfaction of customer needs—and both capitalize on best practices in the private sector.

***CIA** is creating a secure web publishing and dissemination infrastructure. The effort is designed to streamline work flow and create a shared technical infrastructure to make collaboration easier and to electronically disseminate raw and finished products to the intelligence consumer. The main objectives of the initiative include:*

- *Improving analysis by streamlining the production process and enabling the rapid deployment of advanced tools to exploit information more effectively.*
- *Implementing electronic production and removing the bottlenecks that delay dissemination of the product to the customer.*
- *Managing the intelligence process to capture and reuse knowledge and information and incorporate the customer directly into the feedback process.*

***The Department Intelligence community** envisions the transition of the production process and information technology to an operations/intelligence "infosphere" environment. In such an environment, the defense intelligence community would move from single-purpose and single-data-type systems toward an integrated set of virtual knowledge bases. Key objectives include:*

- *Dynamically integrating national intelligence analysis from multiple sources with the timely reporting of tactical sensors, platforms, and other battlefield information.*
- *Providing customer, user, and producer interfaces so that organizations at all levels (national-allied/coalition-theater-tactical) have access to digital data that each can retrieve, manipulate.*
- *Using advanced models, architectures, automated metrics/management tools and authoritative production templates within a collaborative environment to dynamically assign, prioritize, track, and measure the operations/intelligence infosphere content.*

interactively and easily in a secure information environment. In particular, we need to synchronize our policies as we move toward creating a common knowledge space and linking information repositories.

At the same time, it is highly unlikely that the paper product will disappear or that the utility of face-to-face contact will dissipate. As eye-popping as many of the new technologies are, our key customers will still need personal assistance in obtaining the intelligence most important to their needs. Some technology-smart customers may design and use their own intelligence homepages, but time constraints will limit how frequently or often most of our senior policymakers, defense planners, and warfighters navigate the intelligence web.

Evaluating Performance

As we establish and refine new systems and tools for serving our customers and delivering our products, it will become increasingly important to develop methods for evaluating our performance that produce consistent results that can be replicated and applied across the Community. Statistics on demand and production tell only part of the story. If customers are demanding and receiving more, we can assume that we are, at least in part, satisfying a need. These types of measures, however, do not tell us how well we performed, whether our tradecraft was sound, whether we "called it right," and whether our products actually helped our customers.

In addition to mission or agency reviews that provide organizational feedback, most of our analytic organizations have some rudimentary mechanisms in place for evaluating their products and trying to capture information on customer satisfaction. We all face a common dilemma—how to perform these evaluations without a barrage of survey instruments that are more likely than not to irritate our busy customers and lead to survey "fatigue."

We are frequently asked by our congressional oversight committees how good our intelligence analysis is and how well we are responding to customers' needs. It would be useful (and will likely become necessary) to be able to back up our answers with better evidence than anecdotal data and the results of subjective self-appraisals. Apart from the need to respond to Congress, however, we should develop better methods for measuring performance and customer satisfaction because, without them, we cannot reliably or confidently determine what we need to fix and how we can improve.

Reducing Redundancies

A certain amount of duplication in intelligence research, analysis, and production is not only useful but arguably vital to our mission. Indeed, from time to time the analytic community has been asked to establish mechanisms to perform competitive analysis of contentious or politically charged issues of high import. However, given budgetary realities, it is imperative that our analytic community look for ways to reduce unnecessary redundancies and build on the knowledge, capabilities, and products already extant in the larger Intelligence Community. Most of our organizations have taken steps to rationalize production within their units or "communities," and we are making some progress across the Intelligence Community as well.

Cooperation, however, is still spotty, and agencies often find it difficult to cede turf to other

organizations when their primary customers are continuing to demand information on a particular topic. The lack of connectivity and collaborative tools (see Technology chapter) also inhibits efforts to share the burden or solicit help from other analytic units.

Investment Strategy

To provide our customers with the kind of intelligence they want and need without wasting their time and patience, the analytical community needs to:

1. Develop better and more consistent methods for evaluating our products and measuring how well we are satisfying customer needs. Without a good program for evaluating our collection and analysis, we cannot speak with any degree of confidence about how well we are or are not hitting the mark. Without such a program, we also miss an opportunity to make studied judgments about our activities and what we can do to improve our collection and analytic posture. We simply cannot continue to rely on anecdotal evidence, data that cannot be replicated, and statistics that are questionable and inconsistent across the community. (See also Interacting with Collectors chapter.)

Implementing Actions:

- Work with collection community to develop single evaluation process that incorporates both collection and analysis. Initiate a Community-wide evaluation process on core issues to be presented to the DCI as an annual report. Conduct a first-year pilot on two or three issues. Review pilot for lessons learned, adjust program. Begin full-scale evaluations by FY 2001.

- Establish blue ribbon panels—ideally a mix of insiders and outsiders—under the purview of the ADCI/AP to conduct evaluations of event-driven production. Panel members would vary depending on the issue involved. Studies would be initiated at the behest of the ADCI/AP, in consultation with the NIPB. In addition to assessing performance, these evaluations would include lessons learned and recommendations.

- Explore electronic audit trails and other electronic "survey" measures to encourage customer feedback; more accurately determine customer usage, productivity, and timeliness, relevance, and quality of product; and obtain other useful statistics. Investigate possible procedural, legal, and security issues connected with use of audit trail data.

- Learn how web-based businesses measure customer satisfaction and determine what we might profitably emulate.

2. Accelerate digital production efforts and increase Community collaboration in tracking customer requests, measuring productivity, sharing information, and developing tools that make it easier for customers to navigate our knowledge warehouses. Connectivity and collaborative tools are absolutely essential to make progress in supporting our customers, speeding dissemination of our products, tracking customer demand and productivity, and reducing unnecessary duplication of effort. The Technology chapter of this investment plan deals with these issues in greater detail. We can, however, point to some specific steps here to help realize the customer support objectives highlighted above.

Implementing Actions:

- Migrate digital production technology and tools to agency offices that produce daily publications and to the National Intelligence Council (NIC) as a first priority—ensuring, at minimum, that systems are interoperable. Share best practices and lessons learned in digital production.

- Strengthen the current electronic tracking mechanisms employed by various agencies to ensure that they adequately register customer needs at the front end, track responses at the back end, and capture information in production warehouses so that it can be recovered and reused by customers and other analysts. Share best practices. Look for solutions that are, at a minimum, compatible.

- Cooperate in development of tools to help customers search for and retrieve information quickly.

3. Rationalize production of current publications to reduce unnecesary duplication while preserving opportunities for competitive analysis where appropriate and needed. Examine production responsibilities across the Community to ensure appropriate distribution of labor and to share the burden more effectively. We must find ways to cooperate on our analytic production and reduce the redundant flow of information reaching our customers—without damaging our ability to engage in competitive analysis where useful. In doing so, we will not only serve our customers better, but also free up resources that are needed to address other pressing problems.

Implementing Actions:

- Establish baseline of resources (dollars and manpower) devoted to production of daily publications across the Community and develop alternative approaches to Community collaboration—taking account of different customer sets, cost factors, existing and required technology/ connectivity, etc.

- Revitalize Community coordination process for current publications.

- Examine methods for ensuring that competitive analysis on key issues still finds a voice and is incorporated into daily publications.

- Initiate a Community Program of Analysis to rationalize areas of overlap and underlap. Focus especially on strategic studies.

Interacting with Collectors

Goals: To enhance communication and collaboration between the analytic and collection communities, to develop an integrated information needs/requirements process, to develop a rapid data integration capability, to help guide and inform future collection strategies and acquisitions within a fast-changing target environment.

Desired Outcomes:

FY 2005

- *National integrated intelligence requirements process that links or replaces existing community committees and cuts across disciplines.*
- *Integrated collection management tools and systems in transition or under development to improve visibility among collection managers, facilitate trade-offs, and provide the connectivity needed for efficient collection coordination among the various collection disciplines.*
- *Integrated strategies for exploitation of open source information.*
- *Comprehensive, community-wide evaluation program for analysis and collection.*
- *Analytic community engaged in decisions about requirements for future collection systems.*
- *Community-wide training to educate analysts about collection systems and capabilities and encourage greater analyst involvement in development of integrated strategies among the various collection disciplines.*

FY 2010

- *National requirements process running smoothly. Analysts have the tools and ability to task and monitor status of collection requests; improved integration and collection strategies among all collection disciplines are the norm.*
- *Cross-community evaluation tools provide Intelligence Community managers with data necessary to weigh trade-offs and make hard resource decisions.*
- *Collection training mandatory at several stages of analysts' careers and collection-related rotations part of normal career progression.*
- *Effective open source strategies firmly established.*
- *Broad ranging, rapid integration and reporting from multiple sources in a virtual, collaborative network.*

Chapter 6: Interacting with Collectors

A close and continuing relationship between the analytic and collection communities is imperative if we are to develop effective collection strategies against increasingly diverse and hard-to-penetrate targets. Analysts must play a more active role in the targeting, evaluation, requirements, and acquisition process. In short, we must:

- Train our analysts in the capabilities of the various collection systems, participate more actively in the development of collection strategies, provide more frequent and effective feedback to the collection community, and help ensure that new systems are designed to respond to likely long-term priorities.

- Implement a comprehensive collection evaluation program to measure how effectively collection meets analytic and customer needs, better balance the demands for global coverage, warning, and crisis support, and make more informed trade-offs among resources devoted to various collection systems.

- Establish an efficient requirements process that better conveys customer needs, improves customer-collection manager collaboration, facilitates development of multi-discipline collection strategies, and ensures that future systems are designed to respond to likely long-term priorities.

- Provide our analysts with the resources and tools necessary to exploit the increasing volume of collected materials.

The Evolving Collection Environment

The collection environment has undergone a fundamental transformation in the last ten years and is continuing to change in ways that pose an unprecedented challenge to the US Intelligence Community. Our targets are becoming more mobile and agile, and they are less dependent on the traditional communications infrastructure.

At the same time, the business and intelligence worlds are moving closer together. Commercial companies are breaking into areas that previously were the sole purview of the Intelligence Community, and the intelligence communications and work environment are moving to the internet.

The improvements in technologies—and their increasing accessibility to friends and foe alike—are greatly complicating the threat environment. Strategic adversaries, rogue states, terrorist organizations, narcotics traffickers, organized criminals, and other transnational actors, are increasingly exploiting modern technology to operate, communicate, and move about in ways that challenge our collection capabilities.

Open Source: A Special Case

Harnessing open source information is a key challenge today and will be tomorrow because there is so much of it, and because a lot of it is critical to our needs. Traditionally, open source meant the Foreign Broadcast Information Service's (FBIS) daily catch of press and other

media, which provided useful context and color to intelligence analysis. Today, open source material of relevance to analysts working in a dispersed threat environment is dauntingly voluminous, and the Intelligence Community is not keeping up with it.

Exploiting open source information requires a broad, multifaceted strategy: full access to the Internet and skill in using it, state-of-the-art software and analytic tools to mine the Worldwide Web; partnerships with commercial vendors to keep pace with rapid advances in information technology; and a more mobile cadre of analysts who are prepared to engage comfortably—and effectively—with academics, scientists, businessmen, and others with information or expertise relevant to our needs.

Today, the open source community, led principally by FBIS, is making some headway in bounding the problem, but it does not have the resources and is not empowered to meet the challenge. Many other initiatives touch on the open-source problem, but they are neither coordinated nor comprehensive, and they fail to address the problem squarely. The NIPB has made the development of an Intelligence Community strategy for open source a top priority for investment and concerted action over the next few years (see chapter on External Analysis).

Analytic Support to Collection Strategies and Targeting

One of the biggest problems we face as an analytic community today is helping our analysts better understand the collection management process and the capabilities of various collection systems. Yet, the complex world that we must analyze, and the difficult and often technical issues that we must address, demand that our analysts become more actively involved in tasking collection systems and developing integrated collection strategies.

Most components of the analytic community—as well as many of the collection agencies—have made at least a modest effort to bolster their education programs. Training, however, is only a first step in enabling and encouraging analysts to provide more input into decisions concerning intelligence collection. We must establish mechanisms through which analysts can help collectors develop near- and long-term collection strategies. The Community's record in this area is mixed but improving.

As an analytic community, we need to take a hard look at these activities and how they relate (or should relate) to one another. And we need to identify other programs or processes we should be fostering to develop closer ties between analysts and collectors.

Evaluating Collection: Are We Satisfying Customer Needs?

Evaluation must be an implicit part of any good collection strategy, and the analytic community—as a direct customer of collection and a critical interface with the military, policy, and law enforcement communities—must play an active role. Evaluation needs to take place on several levels. At the micro level, there must be feedback mechanisms to indicate whether specific information needs have been satisfied and whether the intelligence provided was timely and relevant. At the macro level, we need to answer the larger questions: "What does all this add up to; did we collect the intelligence necessary to answer key questions and make sound analytic judgments; have we enhanced our consumers' collective knowledge

about an issue or problem?"

Current collection evaluation tends to occur within, but not across, collection disciplines. Feedback mechanisms vary in effectiveness and generally focus on the micro level. In addition, these efforts by definition consist of collectors overseeing evaluations of their own product. This is not necessarily bad, but it can raise questions about objectivity—particularly when collectors are competing for scarce resources—and it only indirectly provides Community managers with insights into overall or relative performance. In short, discipline-specific evaluations are of limited utility to Community managers trying to make decisions about tradeoffs or synergies among collection programs.

The identification of intelligence gaps has sometimes been a byproduct of Intelligence Community studies, but these studies were not designed to provide a systematic assessment of collection performance and customer satisfaction. In addition, the Community has from time to time prepared "lessons learned" assessments of its performance on specific countries or issues. These types of studies have proved useful and have been well-received by national and defense consumers and by Congress.

In the past several years, the Intelligence Community also has begun to address evaluation at the macro level—across the various collection disciplines and across topics—and to develop the kind of quantitative and trend data that should help managers assess collection strategies, customer satisfaction, and allocation of resources more effectively.

Clearly, the Intelligence Community has a way to go in developing a useful and comprehensive evaluation program that cuts across collection disciplines. We must strengthen well-conceived and proven tools already in use but also develop other methodologies to address collection performance. Such evaluations must take the entire collection cycle into consideration so that not only deficiencies in collection are identified but also deficiencies in processing and exploitation of intelligence. As a key customer of collection and as the critical interface between the IC and its consumers, the analytic community must be at the center of the effort.

Managing Collection Requirements and Tasking

The way the Intelligence Community manages collection requirements remains complex and inefficient. National priorities documents provide only a framework of general priorities. The Intelligence Community has no overarching process for integrating and prioritizing information needs and turning them into collection requirements. Instead, we have multiple sets of standing requirements that are specific to each collection discipline, and that take only modest account of potential contributions from other disciplines.

All of the collection disciplines have begun to recognize that success, both as individual organizations and as an Intelligence Community, will depend increasingly on more collaborative management of collection requirements and development of coherent multidisciplinary collection strategies, and that the analytic community can be an asset and an ally in working these issues. Partly for this reason, most have taken steps to improve the accountability and visibility of their requirements processes and systems.

Laudable as many curent efforts to improve the requirements and tasking process are, they go only part way toward resolving some fundamental shortcomings. They do not, for example, reduce the complexity and diversity of "front door" entries into the collection requirements world. They also do not provide integrated collection management tools and processes to improve interaction among collection managers, facilitate trade-offs, and provide the connectivity needed for efficient cross-discipline collection.

A National Integrated Intelligence Requirements Process

Developing a requirements process that cuts across the collection disciplines and assessing the level and effectiveness of overall collection efforts remain extremely difficult. The ADCI for Analysis and Production and the ADCI for Collection are working together and with other components in the Intelligence Community to achieve a more coherent and integrated front-to-back-end collection management process. During the past year, a number of new initiatives have emerged:

- The two ADCIs have provided initial funding for a collection management system to be used by all of the collection disciplines. The system will provide an integrated collection management capability—enabling information sharing among the various collection communities and users of intelligence data. It should improve interaction and enable collection managers to collaborate directly with planners, analysts, collection system operators, and exploitation and dissemination specialists to ensure that requirements are met rapidly and efficiently. The system will provide users with a capability to track the status of their requirements and to adjust their collection requirements to rapidly changing intelligence needs and priorities.

- The new board was established last year under the chairmanship of the ADCI for Administration and vice-chairmanship of the ADCI/AP and ADCI/C to oversee the development of national requiements for future systems. The board serves as the DCI's focal point for identifying future intelligence needs within the national security missions and as customer advocates for those needs as they relate to Intelligence Community strategic planning, programming, and acquisition decisions. The board takes the long-term view in defining and prioritizing needs, and constructs detailed system requirements documents related to the acquisition of intelligence capabilities.

These efforts are steps in the right direction. The analytic community, however, must now help sustain such activities and work together with the ADCI/C and the collection community to ensure that strategic and near-term analytic priorities inform and drive collection requirements and management. In short, the time is now ripe for a new national integrated intelligence requirements process that will link the activities described above and provide the critical interface between analysis and collection, information needs and collection requirements, and analytic priorities and long-term acquisition strategies.

Strengthening our Processing and Exploitation Capabilities

Technology has greatly increased the amount of

information the Intelligence Community is able to collect, but our ability to process and exploit that information has not kept pace—and in some cases has fallen behind previous levels. Previous IC assessments have noted that the revolution in information technology and telecommunications has changed the imagery and signals intelligence worlds from collection-constrained to exploitation-constrained environments. We have not been able to take advantage of potentially valuable information because we do not have the resources to exploit it.

Despite the front-loading of analytic manpower in collection organizations, our capabilities in these areas remain inadequate. The problem is due only in part to the personnel cuts of the last ten years—cuts that have affected the entire enalytic community. The problem also lies in an aging infrastructure and lack of investment in the technological tools and expertise needed to exploit the emerging global net. We must address this issue as a Community because it will have a significant impact on our ability to exploit fully the current and future capabilities of our collection systems and ultimately serve our policy, military, and other customers.

An Investment Strategy for Enhancing Interaction with Collectors

Analytic involvement in the collection process—including targeting, evaluation, setting priorities, tasking systems, and processing and exploiting collected information—will require a significantly greater commitment in people and resources than is currently the case. We need to leverage these resources carefully—participating in and strengthening initiatives that promise the greatest payoff. As top priorities, we must:

1. Establish a Community-wide training program to educate analysts on collection management and systems. Our analysts must understand collectors' needs, capabilities, and constraints to participate more actively in the collection process. Collection training should be made a mandatory part of the career progression for all analysts, and those who develop the requisite collection management skills should be recognized and rewarded professionally.

Implementing Actions:

- Evaluate existing collection training activities in the Community and baseline resources currently devoted to them. Identify best practices and/or centers of excellence. Establish an IC-wide curriculum on collection programs, building—where possible—on training already offered by individual agencies. Start with introductory courses and training for new recruits. Follow with advanced training on collection management and the development of collection strategies. Designate core courses that should be mandatory. Tie to "virtual university" initiative in Chapter 2 (Investing in People).

2. Strengthen the role of analysts and promote collaboration with collectors in the development of collection strategies—including for open source information—and the acquisition of future collection capabilities. Analysts and collectors must interact more closely in determining collection shortfalls, identifying future needs, and developing remedies to better guide collection and respond to intelligence gaps. This area is likely to require major resource investment, and we therefore need to take a hard look at how best to manage

our resources. This involves examining existing efforts that use analysts to help in collection targeting and new initiatives designed to improve collection effectiveness through cross-discipline planning and development of innovative collection methodologies.

Implementing Actions:

- Develop a comprehensive and focused open-source strategy to exploit this growing—and increasingly important—source of information and expertise.

- Conduct a Community-wide review of ongoing efforts to improve collaboration between analysts and collectors. Identify best practices and lessons learned. Review possible new areas for analyst-collector interaction.

- Establish aggressive program in which analysts serve rotational tours in collection agencies and DCI centers specifically to work on collection targeting, strategy, and systems acquisition issues. Look for innovative approaches—including short-term rotations of one-, two-, or three-months' duration. The objective is to complement collection training, enhance analyst-collector interaction, and provide real input on specific collection problems where most needed. ADCI/AP will work with the ADCI/C and others to identify issues/areas where analytic resources can be used most effectively.

- Benchmark additional analytic resources necessary to support collection-related activity (ADCI/AP action with input from NIPB agencies). Ensure that these activities are tied to any new national integrated intelligence requirements process.

3. Develop better methods for evaluating collection and measuring satisfaction of customer needs. We must have an evaluation system that allows us to assess how well we are doing to satisfy our customers and fill intelligence gaps, and that helps us make informed decisions about difficult tradeoffs between collection platforms and future acquisition capabilities. This evaluative process must also help us accurately determine whether deficiencies are due to collection activities and capabilities themselves or to shortfalls in processing and exploitation of the information collected.

To do so, we need a set of complementary evaluation programs that provide micro-level data on satisfaction of specific requirements as well as macro-level data on performance across the collection disciplines; information on the performance of individual collection systems on both an absolute and relative basis, but also assessments of how we are doing as a Community to address critical needs. In other words, we need both broad-based studies that cut across issues and collection disciplines, and in-depth studies of single issues and individual collection disciplines. Finally, we need longitudinal studies that allow for trend analysis as well as narrowly focused studies that provide valuable "lessons learned" in collecting against specific targets or issues.

Implementing Actions:

- Establish a steering group under the chairmanship of the ADCI/AP to provide oversight of a Community-wide and multifaceted evaluation program. The steering group will oversee/monitor the efforts described below. ADCI/AP will provide an annual update to the DCI, DDCI/CM, and the NIPB on the overall evaluation effort.

- Advance the use of existing agency collection evaluation methodologies on the relative performance of collection systems and platforms over time. Expand to include other organizations where appropriate.

- Review/build upon the recent effort of the ADCI/AP and ADCI/C in developing a joint annual report on the state of the Intelligence Community. This review should cut across agencies and be based on a consistent, repeatable methodology. It should provide an in-depth evaluation of how well we have performed in meeting customer needs and filling critical intelligence gaps on a series of key issues. It should take into account competing requirements and identify shortfalls in the collection, processing, and exploitation cycle. It should also provide actionable recommendations to overcome identified shortfalls.

- Appoint blue ribbon panels—ideally a mix of inside and outside experts—to prepare *ad hoc* "lessons learned" studies on event-driven issues or topics of critical concern to our customers.

- Establish a cross-agency working group to explore types of electronic feedback/evaluation mechanisms in use or planned as part of collection management systems currently under development (e.g., audit trails, site visit measures, popup screens, and mandatory versus voluntary evaluation menus). Cross-fertilize with activities underway in analytic organizations as part of production reengineering efforts. Evaluate commercial methods and software that might provide easy and consistent statistics across the Community on customer usage and satisfaction and on demand-to-response ratios for standing and *ad hoc* intelligence requirements.

4. Develop a National Integrated Intelligence Requirements Process. We must establish a single process to integrate and prioritize requirements across disciplines and mission areas. Without such a process, collectors will be left to integrate and prioritize requirements within their separate stovepipes; the analytic community will continue to have poor visibility into the status of collection; the Intelligence Community will be deprived of a means to make efficient trade-offs across platforms and manage future acquisitions; and non-military national information requirements will continue to compete for collection satisfaction on an individual basis with the vast quantity of military requirements that are fully integrated and prioritized.

This process must allow Community analysts to submit, integrate, and prioritize information needs for all collectors and provide analysts and collectors visibility into the status of collection through the entire tasking, processing, exploitation, and dissemination cycle. It must include a leadership entity with responsibility for adjudicating conflicts on intelligence priorities; assuring balanced collection; identifying future requirements; and supporting strategic planning.

Implementing Actions:

- Build on recent studies to map the existing requirements process. Based on these studies, develop a framework and processes for integrating and prioritizing intelligence needs.

- Establish an Annual Integrated Information Requirements Plan that will provide prioritized direction to the ADCI for Collection's annual plan for allocating collection. Marry this plan to software that will allow dynamic updating of priorities.

- Work with existing individual Community collection committees and/or mechanisms to provide: Community-recognized, integrated information priorities to the collectors; substantive guidance during surge situations; and integrated and prioritized future information needs to the new future requirements board.

- In conjunction with the above, monitor and support the pre-acquisition efforts of the integrated IC collection management system and of the agency requirements systems.

5. Ensure adequate resources for the processing and exploitation of collected intelligence. No matter how sophisticated or capable our collection systems are, they remain of little value if we are unable to process and exploit the information collected in a timely and focused fashion. Our capabilities in technical processing and exploitation of information have suffered in recent years from cuts in personnel and lack of investment in infrastructure and expertise-building. Fixing this problem must be a top priority for the entire Intelligence Community.

Implementing Actions:

- ADCI/AP work with NSA, NIMA, and others to ensure that analytic capabilities are addressed in agency-specific strategic plans and annual budget submissions.

- Ensure that investment in analytic tools development addresses needs of analysts in collection agencies, as well as those in other parts of the analytic community. Focus on tools that are interoperable and compatible across the Community. (Implementing actions are addressed more fully in the Technology chapter.)

- Develop a Community-wide capability that will flag events of importance as the information is collected and processed, as well as the necessary tools to allow analysts to integrate the data quickly with information from other multiple sources.

- Study the costs and benefits of establishing a Community analytic center to provide a prototyping or demonstration capability for data integration. Look for ways to leverage existing efforts.

Engaging External Expertise

Goal: To enhance our analysis through collaboration with academia, industry, and non-governmental organizations, to expand our knowledge base, share burdens, challenge assumptions, bring additional perspectives to bear, and encourage innovative thinking.

Desired Outcomes:

FY 2005

- *Routine interagency collaboration on external research plans, objectives, and events.*
- *New external interaction policies and legislation focused on risk management.*
- *IC skills clearinghouse, policies, and contracting vehicle to support an Intelligence reserve.*
- *Convenient collaboration with external experts at both classified and unclassified levels.*
- *Easy and routine use of alternative/competitive analysis in appropriate IC products.*
- *IC-level strategy to set priorities for data mining and Internet exploitation.*

FY 2010

- *Analytic, policy, and legislative culture that supports full exploitation and integration of external experts.*
- *Intelligence reserve fully operational and part of IC planning and support.*
- *Real-time collaboration from analytic desktop at multiple levels of security as appropriate.*
- *Alternative/competitive analysis fully integrated into IC products as appropriate.*
- *Increased level of effort to engage external expertise is tied to IC strategy to exploit the expanding realm of unclassified information.*

Chapter 7: External Analysis

The Intelligence Community no longer has, if ever it did, the expert on every topic of potential national security interest. We must systematically look to outside experts to help us exploit the open source environment more effectively, fill important information gaps, and stimulate innovative thinking and alternative viewpoints. The range of outside expertise we can tap to do this is impressive and more readily accessible than ever before. We must leverage this expertise and take advantage of the new information environment to produce the most authoritative analysis.

Leveraging External Research in a Changing Environment

Over the past decade, the quantity of intelligence-relevant information available from open sources and outside experts has increased dramatically. The globalization of the media (illustrated, for instance, by CNN's coverage of the Gulf War in 1991), the rapid development of the Internet and new communications technologies, and the emergence of the global economy have all combined to provide an infusion of open and gray[1] information that has never before been so widely and readily available. Much of this unclassified information has significant utility to the Intelligence Community and our customers. Identifying, gaining access to, and evaluating that information, however, poses a significant challenge.

As the volume of relevant information has grown, the number, diversity, and complexity of intelligence targets has increased. Today's intelligence analysts face a multipolar world in which a growing number of state and nonstate actors pose a significant danger to the United States. As a result, our analytic community is asked, and must be prepared, to respond on a broad range of topics. Moreover, the Intelligence Community is frequently required to shift rapidly to new topics that were barely on the intelligence horizon yesterday but about which policymakers need sophisticated, in-depth assessments today.

In this more interdependent world, customers are exposed to information and perspectives from sources outside the Intelligence Community, and they expect that we will be equally conversant. Just keeping up with the vast amount of unclassified data available poses a major challenge for analysts. Using external partners to help filter or analyze information can help focus our analysts and improve efficiency.

Forging the Network

The Intelligence Community already takes advantage of a wide variety of external expertise, including large research firms, independent contractors, academics, and leaders in business and industry, as well as military reservists and non-intelligence government organizations such as national laboratories. These individuals, groups, and organizations provide information,

[1] Gray information is unclassified but proprietary or otherwise sensitive information to which public or outside access is restricted. As we enhance our outreach to external expertise, dealing with information that our outside partners deem to be sensitive may require new policies and legal guidance.

ideas, expertise, analysis, and judgments. For the analytic community, this results in the:

- Provision of expert knowledge not resident in the Intelligence Community that fills knowledge gaps and allows us to enhance our coverage of intelligence areas and topics.

- Creation of knowledge-gaining opportunities for analysts and the enrichment of their capabilities.

- Augmentation of personnel when the number of inside analysts may not be sufficient.

- Creation of part or all of selected intelligence products.

- Vetting of alternative perspectives through red teaming and competitive analysis.

- Development of new analytic methodologies.

Overall, the Intelligence Community has had significant success in bringing outside expertise to bear on topics of interest. Although each organization approaches the problem somewhat differently, and generally independently, there is significant commonality in the type of outreach activities conducted.

- The National Intelligence Council (NIC) has made outreach a central tenet of its efforts to improve the quality of its product. The NIC relies primarily upon a network of individual outside experts to produce special papers, conduct seminars, review or contribute to selected National Intelligence Estimates, and provide longer-term consulting services. The NIC also manages a number of panels and committees that tap outside senior-level expertise.

- CIA consults with several hundred individual experts from the academic and business communities, has an extensive set of analytic contracts with some of the country's leading institutions.

- DIA also contracts with many of the major commercial research firms, some government organizations such as the nuclear laboratories, and independent contractors. Nearly all of the DIA external analysis efforts are directed toward acquiring expertise or hosting seminars on military topics in the technical scientific and engineering fields.

- The Department of State's Bureau of Intelligence Research plays a prominent role in outreach. INR organizes numerous seminars and conferences that enable State and the Intelligence Community to tap the expertise of outside experts. INR also manages the Research and Training Program on Eastern Europe and the Independent States of the Former Soviet Union (Title VIII). This program builds and sustains expertise in the United States on Russia, Eurasia, and Eastern Europe through support for advanced graduate and language training and post-doctoral research.

- The National Ground Intelligence Center (NGIC) has a long standing and highly successful program of hiring university faculty and integrating them into the staff.

- NSA sponsors target study seminars in which academics, private industry experts, military commanders, and government poli-

cymakers brief NSA analysts on key issues confronting the United States.

- The Office of Naval Intelligence (ONI) has a particularly active program of outreach to the national laboratories, businesses, and academic experts. Academics supplement the knowledge of ONI analysts or fill gaps where specialized expertise is required. In addition to individual experts, ONI has special access to university experts and other world-class government engineers and scientists.

Sharing External Expertise

The information, analysis, and expertise obtained by the Intelligence Community from external sources is of maximum utility only when it is shared. Many efforts are underway to increase cross-Community visibility and cooperation. These efforts include networking to identify qualified external experts and organizations as well as joint sponsorship and shared access to external research conferences and events. Joint conference sponsorships can involve shared funding and collaboration on special events or conferences.

Many programs take great pains to disseminate information gained from their outreach efforts. For instance, reports typically will be sent to interested analysts, and videotapes of seminars or written summaries will be made available on classified websites. Although these approaches do not provide all the benefit of seminar attendance, they do expand the potential audience for external commentary.

Investment Strategy: How to Leverage the Global Knowledge Base

Despite current successes, a number of problems inhibit the utility of ongoing external research activities. The Intelligence Community must:

- **Make contact easier and quicker**. The ability to contact outside partners through routine secure and nonsecure communications is critical to support routine and surge operations.

- **Share initiatives more effectively**. A comprehensive mechanism is needed to alert analysts at one agency to events involving external experts being conducted at another. This will increase cross-Community participation and benefit.

- **Recapture lost expertise through outsourcing some analysis.** The Intelligence Community has an extremely limited ability to identify and track annuitants who have skills of continuing interest. *Ad hoc* efforts exist, but there are no formal mechanisms at either the Community or individual agency levels to fill this gap. Steps could be taken to create a database of interested retiring professionals.

- **Institute a policy framework to facilitate outreach**. A variety of policy and legislative problems inhibit the use of outside expertise, specifically for short periods or to comment on or participate fully in creating Community products.
- **Establish a way to locate and tap outside experts quickly**. The Community currently has no central mechanism or database for identifying appropriate external experts quickly. This makes is hard to consult them in surge situations, when their utility may be greatest.

- **Share information of common interest about external experts.** The Community has no clearinghouse or repository of external experts either on contract or known to be available.

To accomplish these strategic goals, the following initiatives are necessary:

1. Build an Intelligence Community Reserve. An Intelligence reserve could be used to augment the analytic cadre for both surge and normal coverage purposes.

Implementing Actions:

- Develop a Community-wide template for our agencies to incorporate in their transition programs that would encourage individuals leaving the Intelligence Community to apply for inclusion in an Intelligence reserve.

- Develop appropriate contract mechanisms and work with Congress to create legal remedies to existing constraints on the hiring of former employees.

- Develop a strategy for alerting retirees to the possibility of joining the reserve. Frame an approach that would allow those interested to retain appropriate security clearances.

- Develop an Internet-based interface that would allow reservists to update their contact and skills information.

- Initiate a pilot program. Review, adjust, and expand the program.

2. Improve interagency visibility of available external research resources and activities. The Community spends significant resources on external research activities. Broadening knowledge and understanding of these activities should ensure minimal duplication of efforts and promote more efficient IC exploitation of these assets.

Implementing Actions:

- Create an on-line clearinghouse for seminars and projects using external experts. This clearinghouse will keep analysts informed of upcoming events and convey the results of those efforts. This site will also provide outreach program managers the capability to more easily exchange information among themselves.

- Create a database containing external research contract efforts. The Intelligence Community currently has no simple mechanism to coordinate its efforts for external research. While each agency has slightly different needs and different customers, sharing knowledge of these research efforts may allow efficiencies and cost savings not available today.

3. Develop a strategy to embrace and exploit the emerging "information environment." External research can be considered a "value-added" hybrid somewhere between open source and human intelligence reporting. Numerous private companies are now providing both periodic and *ad hoc* informational products geared to the specific interests of their customers—some of which are agencies within the Intelligence Community. These companies provide not only tailored information but analysis of that information and estimates of out-

comes and implications as well. For their input, such companies depend largely on open-source information. Thus, apart from the value of their insights and analysis, these firms could help us mine the vast amount of open source information for the nuggets we both value. The Community needs to develop a corporate strategy to use these external sources more effectively. Welding together these efforts will be critical to maximizing use of our scarce resources.

Implementing Actions:

- Catalogue and share awareness of current efforts to leverage commercially-available sources of external analysis. Identify best practices.

- Develop a strategy that recognizes the role, criteria for use, and capability of external partners to filter/analyze information.

- Building on these baseline efforts, develop a funding approach containing a list of options and their fiscal impact—including the possible establishment of a coordinating body to implement a Community-wide strategy for Internet exploitation and purchases from open source data companies.

4. Improve communications with external research partners. Ease of communications—both open and secure—with external research partners is essential to fully integrate external research into the analytic process. To that end, we will need an appropriate suite of digital communications tools, including audio, video, graphical, and textual mechanisms.

Implementing Actions:

- Initiate a requirements study, in cooperation with the IC Chief Information Officer, that will lead to development of effective capabilities to communicate with external partners. Desired capabilities include web-based audio/video conferencing and white-boards to share graphical or textual information (either at the desktop, or using stand-alone equipment or facilities)—thus enabling analysts and others to participate remotely in external research seminars, and classified and unclassified "chat-rooms."

5. Establish competitive and alternative analysis as a standard approach on issues of vital national significance. Some subjects are so important that we must make sure we consider alternative perspectives through mechanisms like competitive analysis and red teaming.

Implementing Actions:

- Identify increased opportunities for competitive and alternative analysis.

- Work with the National Intelligence Council on a pilot establishing standards for competitive and alternative analysis to be included in the NIE process.

6. Develop a Community-wide strategy for optimizing the benefits of our partnerships with industry, academia, and other government agencies while protecting our secrets and equities. The DCI identified a need to improve the policies and procedures governing our relationships with the outside world as a priority in his ***Strategic Intent.*** Extensive regulations and legislation currently govern how the Community interacts with external research partners. We need to review these policies,

using security risk management and reasonable ethical standards as a guide. We cannot make maximum use of outside resources without effective policies and legislation to facilitate the integration of external experts into our workflow.

***Implementing Action*:**

- Conduct an intensive Community review of policies and legislation regarding external research over the next year and recommend revisions as appropriate. This review should build upon the best practices extant in the Community today, with an eye toward making it easier to establish continuing relationships with academics and other outside experts, communicate actively through e-mail and the Internet, and exchange ideas in a collaborative environment.